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THE LINGUISTIC SITUATION IN THE GULF DISTRICT
AND ADJACENT AREAS, PAPUA NEW GUINEA

by

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CHAPTER 1

INTRODUCTION

Karl J. Franklin

1.1. The Gulf District and Adjacent Districts

Prior to 1951 the Districts in Papua were known as Divisions. Consequently *Annual Reports* published before that date use the earlier term. The Papuan Divisions of the Central Highlands, Delta, and Gulf were established after the second world war. The Central Highlands Division comprised the Northern portion of the former Western and Delta Division. The northern boundary was the Territorial Border between Papua and New Guinea. A headquarters for the Central Highlands Division was established at Lake Kutubu in 1949.

The border between the Central Highlands and Delta Division was a line drawn from Mt. Karimui in the east to Mt. Bosavi in the west, then slightly northwest to the then Dutch New Guinea border. The western border of the Delta Division was the Western Division Boundary of the Turama River and the eastern border was the Purari River in the East. The Delta Division had its headquarters at Kikori.

The Gulf Division was east of the Purari River as far as the border or the Central Division - a line drawn due north from Cape Possession to the Papua New Guinea Border. The headquarters for the Gulf Division was at Kerema.

In 1951 the former Gulf and Delta Divisions were amalgamated into the Gulf District, with headquarters at Kerema. Part of the Central Highlands was incorporated into the Western District and the remainder was renamed the Southern Highlands District, with headquarters at Mendi. The present borders of the Western - Gulf - Southern Highlands Districts is a line drawn from the mouth of the Gama River northwest to the headworks of the Turama River, then directly north at 143° to east of

Mt. Bosavi. The line then is drawn east and then north to the Karius Range before it proceeds along the range west to the Mueller Range and then due north to the Papua New Guinea (Territorial) border.

The Chimbu District was formed in 1966, with headquarters in Kundilawa. It was formed mainly from the Kerawagi, Chimbu, Chuave, Karimui, and Gumine areas of the Eastern Highlands District, with some small boundary adjustments as well in the Western Highlands, Southern Highlands and Gulf Districts.

The history of European penetration into the Gulf of Papua is quite early and extensive along the coast. In 1846 the H.M.S. Bramble surveyed some areas to the east, but it was not until 1883 that Chalmer discovered one of the outlets of the Purari River. A few years later (1890) Bevan described his voyages up the Kikori a short distance and also up several inlets to the east. By 1912 the coast of Papua was said to be almost completely controlled.

Visits to the interior apparently began in 1907 when D. Mackay led an expedition up the Purari and walked west as far as Mt. Murray. S. Smith extended the journey in 1910-11 in an ill-fated expedition up the Kikori by boat then north to Mt. Murray by foot. His plans were then to walk west to the Strickland River. Instead his party became separated and confused and after an extremely difficult journey ended up back on the Kikori River. However, in 1913 H. Ryan went up the Kikori and then westward across the headwaters of the Turama, Abavi and Wawe Rivers, finally descending the Aworra.

It was not until 1922 that L. Flint and H.M. Saunders visited the Samberigi Valley, crossed the Kerabi Valley and found the Erave River. B.W. Faithorn and C. Champion followed the Erave to its junction with the Purari in 1929, after they had gone up the Turama and east. About the same time (1930) M. Leahy and M. Dwyer rafted down the Purari from the Eastern Highlands (the Upper Ramu). H. Hides patrolled the upper Purari between 1931 and 1934. Finally in 1937 C. Champion and F.W.G. Anderson established a camp at Lake Kutubu and penetrations were begun in earnest into the Southern Highlands. I. Champion and Adamson patrolled from the Bamu River to the Leonard Murray Mts., to Lake Kutubu, the Waga Furari Valley, Mt. Giluwe and back to the Purari River. Champion (1940) gives an account of this expedition. J. Hides and J. O'Malley had also already crossed the Papuan Plateau and parts of the Southern Highlands in their Strickland - Purari patrol of 1935.

The Karimui area was not effectively patrolled until 1952 when

D.P. Sheehey and T.M. Claridge went from Mendi to Mt. Karimui.

Despite these early penetrations, little has been known of the linguistic situation in the Gulf District. The present volume is an attempt to classify all the languages which are known to be spoken in the Gulf area. Because political and administrative boundaries of the type outlined above intersect language groups, certain areas adjacent to the Gulf District are also described.

1.2. Previous Studies and Linguistic Classifications of the Gulf

The Gulf, with a paucity of linguistic evidence, has not been without several proposed classifications. Later in this section we shall outline the most complete ones and summarise some of the findings presented in this book.

1.21. General Information

Several aspects of the early life of the people in the Gulf area have been recorded. Chinnery (1917), for example, noted the use of the wooded kipi trumpet and the conch shell. Cannibalism was widespread, except for the Elema, but the lack of pottery in the Gulf meant that human flesh was roasted (Beaver 1914). His observations extend from the Bamu area east at least to the Purari area, where the Motu traders brought their pottery in exchange for sago.

The most notable item in the Gulf area was the carved gope boards (Thorpe 1931), which were erected in the men's clubhouses. These were associated with a dance celebrating both initiation and pig kills (Austen 1934). The boards were similar in some respects to the agibe slabs used at dances along the Turama River area (Austen 1935-36). The designs on the gope boards have been illustrated in Newton (1963), and their association with bullroarers and other objects is repeated by him. He has also (Newton 1961) described the art styles which are common throughout the Gulf area. Wirz (1937) has commented on the possible common origin of the bullroarer (which is apparently not found at Kikori or westward) and the use of the tall masks known throughout the delta and former Western Division of Papua.

Another common feature throughout the Gulf area was a dance known in the western Eleman as the ehalo (Humphries 1931), named after the type of masks used.

Further to the west, an eastern migration of the Kiwai (Chapter 6) is also supported by the legends about a mythological character known as

Hido (Austen 1931-32), who was called Iko by the Namau tribes of the Purari delta. The people near Baimuru (Vaimuru or Kemeravi), were said to have come from Wimarí on Kiwai Island, near Auti village.

An interest in the Purari river area has been maintained since 1908 when the Little and Mackay discovered coal during an expedition up the river to the Hathor gorge. An account of their trip and the names of some of the villages and people can be found in the *Geographical Journal* (1911). They were apparently in Polopa territory (see Chapter 3) during much of their expedition.

As Brown summarises later (Chapter 8), the work of Williams is of primary importance in any understanding of the early life of the people in the Purari delta, and especially of the Eleman as a society. His article on age grading (1939) preceded his extensive account of the Orokoló (1940). Williams suggested that the name Elema was the term used by Motu sailors in their trading expeditions into the area, in that it was probably their rendering of Hereva-Haera, the people living near Orokoló.

There are two early main studies that touch upon the Purari area. The first is an extensive study of the people of the delta by Williams (1924). His book, coupled with the photographs of the area, allow Maher (1961) to describe the Purari culture before European contact (Chapter 11). Maher also has maps which show the distribution of Purari villages at the time of contact, in 1939, and finally in 1955. The second major early study is by Holmes (especially 1903), who recorded some of the oral tradition of the people. This suggested that although the birthplace of the Purari people is not certain, it may have been from the interior. Some confusion is due to the tribal history of the Purari (or as Holmes calls them, the Namau) area. Holmes (1913) mentions four groups or tribes: (1) the Muru, living east of the Purari, who were probably a split from the Kaura (or Haura); (2) a group of the Kaura also on the east bank of the Purari. These were probably Elema people in that they could not speak Namau; (3) another group of Kaura, but on the west bank of the Purari and speaking Namau. These were not Elema, but were probably given the name by those living near them; (4) the Namau proper, divided into the Vaimuru at Era Bay, the Kaimare on the Pie River, and the Iai, living further inland. Williams (1924) also mentions the Kaura people of the Purari River, but does not relate them to his four tribes of the delta area: Koriki, Iari, Kaimari and Baroi.

The only other account of the Purari area which mentions groups of

people is by Hides (1938), but generally his expedition was further inland than the delta.

The Gulf people have long been traders, but apparently not sailors. Williams (1932) describes the early disasters of the Elema people who attempted to imitate the Motu in their lakatoi vessels. Besides their trade of sago for clay pots, the Elema also traded bows and arrows, as well as tobacco, for shell ornaments. Seligmann (1910) gives the fullest account of the Motu trading voyages, and this is supplemented by William's own account.

In Chapter 8 Brown's comments on the probably migration of the Eleman tribes from the interior is supported by the earlier observations of Holmes (1903). Holmes said that oral tradition suggested a split into six different tribes of two main groups: (1) those with tribal names ending in *ipi*; and (2) those ending in *raʷuʷau*. Some of the latter are at each end of the Elema territory.

Holmes (1924) notes certain similarities of the Namau-Toaripi, especially the body part counting system and the use of reduplication for the number four. However, both features are widespread throughout the Gulf. It is, rather, Brown's study in Chapter 8 which allows the combination of Purari-Eleman into a broad linguistic group. His classification of the lexical relationship is along four separate avenues: (1) loans, such as the word for *men's house*; (3) words which are unique to the two areas, such as *headman*, or unique to Namau and Toaripi, such as *courage* and *fear*; (4) common introductions from Motu, such as *price* and *fish-hook*.

Of particular interest is the Tate, or Raepa Tati ("Hill Tati") as Brown calls them (8.6.). If this is an AN language, there is little evidence left today. On the other hand the language known as Tati may have been strongly influenced by the Mekeo. Brown indicates that Kovio (an AN language) is closely related to the Tati, or North Mekeo, as it is now known. At any rate there are no known affinities between it and Toaripi, although a full study of the N. Mekeo and Raepa Tati is needed at this point. The latter has been strongly influenced by Toaripi and Brown seems to feel that the Raepa Tati may be historically related to the AN languages, such as Roro to the east.

One interesting fact which parallels our linguistic evidence is that the AN-NAN division near the common Gulf-Central District border is supported by a study of tattooing patterns by Barton (1918). He found that even though the Eleman (as well as the Tate, Kiwai further west, or

other groups) tattooed men, their patterns were extremely crude when compared to the AN groups further east.

A continuing problem in the Gulf area has been sickness and depopulation. (Murray 1932; McCarthy 1968). Even though Murray suggested possible avenues to overcome the problem, there has been no lessening of the trend. Murray thought, somewhat naively we might add, that depopulation might work for the better, in that "the more resistant stocks will remain, and that their natural increase will be more than sufficient to make up any loss" (1932:213). His comments were in relation to the interaction of sickness, insufficient food supply, and the passing of the old native way of life.

Coupled with the problem of depopulation has been a general sense of confusion and inferiority caused by a period of hysteria related to a type of cargo cult (Williams 1934). Williams felt that this was due to the inability to assimilate the new aspects of the European culture, as well as the loss of the customary means of social control.

We might conclude by stating that although the linguistic history of the Gulf area turns out to be quite interesting (as will be summarised below), the general lot of the Gulf people has been poor since the days of earliest contact. The government and the missions who have worked in the area have done much in regard to social benefits, but the general present absence of cultural pride in the area (Beier and Kiki 1970), coupled with depopulation and other factors is generally disheartening.

There are several linguists who have attempted to classify the linguistic situation in the Gulf from early in the century up until the middle of the century. We will examine the findings of four of them: Ray, Loukotka, Capell and the Voegelins.

1.22. Sydney Ray

The earliest attempt to classify languages in the Gulf area was by S.H. Ray (1907). Beginning with Girara at the left bank of the Fly River and continuing east to the Biaru River he noted nineteen languages. Nine of these were what we now call Kiwalian languages, seven were Eleman, and the remaining three were apparently what we call Kairi (Ray's Dumu), Ipiko (his Epai or Ipikoi), and Purari (his Namau or Maipua). Only Ray's Paia is uncertain, for there are no words or details recorded about it, but its position on his map suggests that it is in a Kiwalian area.

At the same time Ray suggested the distinction between Papuan and Melanesian languages (1907:287). Papuan languages were said to have no

common origin in the pronouns, formation of possessive pronouns by a suffix to the personal pronouns, noun cases formed by postpositions, subject of a transitive verb in the instrumental case, higher numerals usually reckoned by naming parts of the body, and a complicated verb system which included expressing tense, person, and number by suffixes. Each of these points contrasted with characteristics of Melanesian languages.

Ray's later studies (e.g. 1913-14, 1927) built upon this early report. His collection of vocabularies for Papua had grown from forty-six in 1907 to almost 300 by 1927. He classified the lists into sixty-five apparent groups. The languages of the Delta Division which he listed were Kibiri, Aurama, Ibikaira, Orokolo, Namau, Ahiare, Karima, Bara and Eme-eme. In the Gulf Division he listed Madinava, Maiheari, Baibala, Toaripi and Tate. We have attempted to identify and classify these names on legends at the close of appropriate chapters.

1.23. Čestmír Loukotka

In 1957 Loukotka classified the language of Papua in an article accompanied by a linguistic map. His information was drawn entirely from existing sources. In the Gulf his groupings were the Kukukuku, Elema, Aurama, Namau, Sesa, Samberigi, Kasere, Kiwai, as well as groups in the inland and interior. Many of his names are difficult to trace, but I have commented on some of his work elsewhere (1968). We have also attempted to identify the names he used at the close of each appropriate chapter in this book.

Loukotka's Kukukuku group is Lloyd's Angan (Chapter 2), but Loukotka had only one language, apparently Kapau, listed. His Elema corresponds to Brown's Eleman (Chapter 8), but Brown includes several of Loukotka's names which are unaccounted for. One other of his isolates, Maiheari is also in Lloyd's Angan Family. Loukotka's Aurama and Namau groups correspond to Pawaia and Purari respectively. His Sesa is included within MacDonald's Teberan (Chapter 3) his Samberigi is in the West-Central Family (Wurm 1960, 1971), his Kasere is in our Turama-Omatian (Chapter 7), and his Kiwai are apparently all within Wurm's Kiwalian (1951; Chapter 6). Other languages that he mentioned will be identified in the legends at the end of each chapter. Later (1962:415) Loukotka proposes two groups which include Gulf languages in particular: (1) the Karima group, including languages called Karima, Barika, Kibiri, and Dugeme; (2) the Sesa group, including Sesa-Ibukaira, Ro-Keai-Bara,

Foraba, and Kutubu. All of the Sesa group except Kutubu (Chapter 4) are discussed in Chapter 3 by MacDonald. All of the Karima groups are discussed in Chapter 7.

1.24. A. Capell

Capell's classification (1962a) of the Gulf area added some unidentified names to the earlier classification. Waiiemi, apparently at the headwaters of the Turama-Omati Rivers, for example, is not mentioned in his text. In general, rather than giving a firm classification, Capell gave brief accounts of two language areas. These were the Kikori delta and the Kerema coastal area, the later including four branches of what Capell called one language: Vailala - Orokelo - Kerema - Toaripi (see Chapter 8). In the Kikori delta and inland Capell mentioned the Kerewa and other groups east to the Era River as Kiwaiian (see Chapter 6). Other than this he described only a few features of Koriki and mentioned two groups of languages inland: (1) the upper Turama, Paibuna, and Omati Rivers languages. In this area he listed only Kibene by name; (2) the Pavaia, which he said (p.139) was spoken at Namaina, Keka, Taraha, Sira and Sesa. In a publication about the same time (1962b:374) Capell stated that only the Kiwai and Orokelo were definite groups. Because he was describing a much broader classification he did not go into any detail on specific languages of the Gulf.

Capell also listed the Rumu and Poromi languages, both being distinct from Kerewa. Rumu is classified later (Chapter 7, as Kairi) and Poromi is considered a language isolate. The different language which he reported near Mt. Favenc and the group on the islands of Lake Tebera are described by MacDonald in Chapter 3 on the Teberan Family.

1.25. C.F. and F.M. Voegelin

In a volume called *Indio-Pacific Fascicle Five* (1965) the Voegelins proposed an overall classification of New Guinea languages.

Their first large group, called the Central New Guinea Macro-Phylum (p.4ff.), was extended to include all groups said to be related to any group within the macro-phylum. This chain relationship allowed the inclusion of the ENGH Micro-Phylum, the Southeastern WNG Phylum, the Ok-Oksapmin Phylum, the Binandere Phylum, the Kâte Phylum and the Ndu and Ndani Families.

Included within the ENGH Micro-Phylum are Duna (see Chapter 5 for mention of this language), Kutubu (=Foe, see Chapter 4), Mikaru and

Pawaia (Chapter 3). Voegelins then include Kutubu and several dialects of our Teberan Family (Sesa - Ibukaira, Ro-Keai-Bara, and Foraba) in a "Sesa Group" (cf. also Loukotka).

There are two other Phyla which the Voegelins establish which include languages of the Gulf District: the Kiwai (generally Wurm's Kiwai Family) and the Karima. In the latter they follow Loukotka's (1962) "Karima Group" and propose four languages: Karima, Barika, Kibiri and Dugeme. All of these names are mentioned in Chapter 7.

All other languages in the Gulf District (except the Kukuku and Vailala-Orokolo-Toaripi Families) are listed as unclassified. These include Kibene, Kasere, Waiiemi, Wariadai, Pepeha, Morigi Island, Dumu, Poromi, Harahu, Mamisu and Kouki. All of these languages are mentioned and identified in appropriate chapters.

1.3. More Recent Classifications

Beginning with Wurm's classification of the Highland and certain adjacent languages, the Australian National University has contributed substantially to our understanding of Papua New Guinea linguistics. Both Wurm and Voorhoeve have studied in linguistic areas which clearly relate to the Gulf. Most recently (1971) Greenberg has proposed even more spectacular relationships between New Guinea and other languages.

1.31. C.L. Voorhoeve

In 1968 Voorhoeve proposed far-reaching linguistic relationships which led to his establishing the South and Central New Guinea Phylum. Of the languages or Families which are examined in this volume, he included Samo-Kubo-Bibo, Bosavi and Fasu (see Chapter 4 and 5), as well as the Kiwai Family (Chapter 6) within his Phylum. Later (1970) he renamed the entire group a stock, in keeping with his and McElhanon's establishment of a Trans-New Guinea Phylum which included the Central South New Guinea Stock as a member.

Laycock and Voorhoeve (1971) also give a brief account of the history of linguistic research in the Gulf area, as well as mentioning broader Papuan classifications.

McElhanon and Voorhoeve's study (1970) was the first indication that the so-called Highland group of languages had a broader relationship which connects languages in the Huon peninsula with languages in the southwest of Papua New Guinea. This includes a good part of the Gulf,

as well as most of the languages discussed in Chapters 4, 5, and 7 of this book.

Voorhoeve (1970) also has shown how languages in the Western District which were previously not thought to be related are part of a much larger CSNG Phylum (now called a Stock by Wurm, 1972).

His studies of the CSNG area have clarified the linguistic picture to a considerable extent. His contribution as co-author in Chapter 4 is of particular note, in that it relates to an area where two quite distinct linguistic stocks meet - the Highlands and the CSNG.

1.32. S.A. Wurm

The linguistic situation has been reassessed by Wurm continuously and we will attempt to review only his most recent work (1971, 1972) of the Gulf District.

Within Wurm's CNG Macro-Phylum are the ENGH Phylum, the Huon Peninsula Phylum, the SENG Phylum, the CSNG Phylum, and the WNGH Phylum, as well as the Anga Family, the Mikaru (now our Teberan) Family, the Foe (Kutubu) and Pawaia.

Wurm outlines sixteen shared features of the members of the Macro-Phylum (1971) as well as typological features of the Angan Family (p.597).

Certain of the families which Wurm describes (pp. 648ff.) on the basis of information supplied by myself have been modified in this present study. In particular: (1) his Kikori River family (my Turama-Kikori) has not proven to be at a Family level, if Kairi (Dumu) is included. Because of this we have chosen to call the Turama-Kikori group a Stock; (2) the Inland Gulf Stock includes languages of the upper Bamu River, the Paibuna River and as far east as the lower western side of the Purari River. The latter Ipiko (Ipikoi) was earlier classified as an isolate. Other names given by Wurm in his finder list (p. 1258 ff.) will be included at the end of appropriate chapters.

Another supposed isolate Mai-hea-ri has consequently proven to be a member of the Angan Family.

In the same article Wurm brings up to date Voorhoeve's internal classification of the CSNG Phylum. He reported a change in several areas which affect the Gulf District; (1) the CSNG is now simply a Stock of a much larger group; (2) Fasu, Foe and Duna are considered Family-level isolates of the large SCNG Phylum; (3) the Kikori River (see above) and Kiwai Families are considered on a Stock-level.

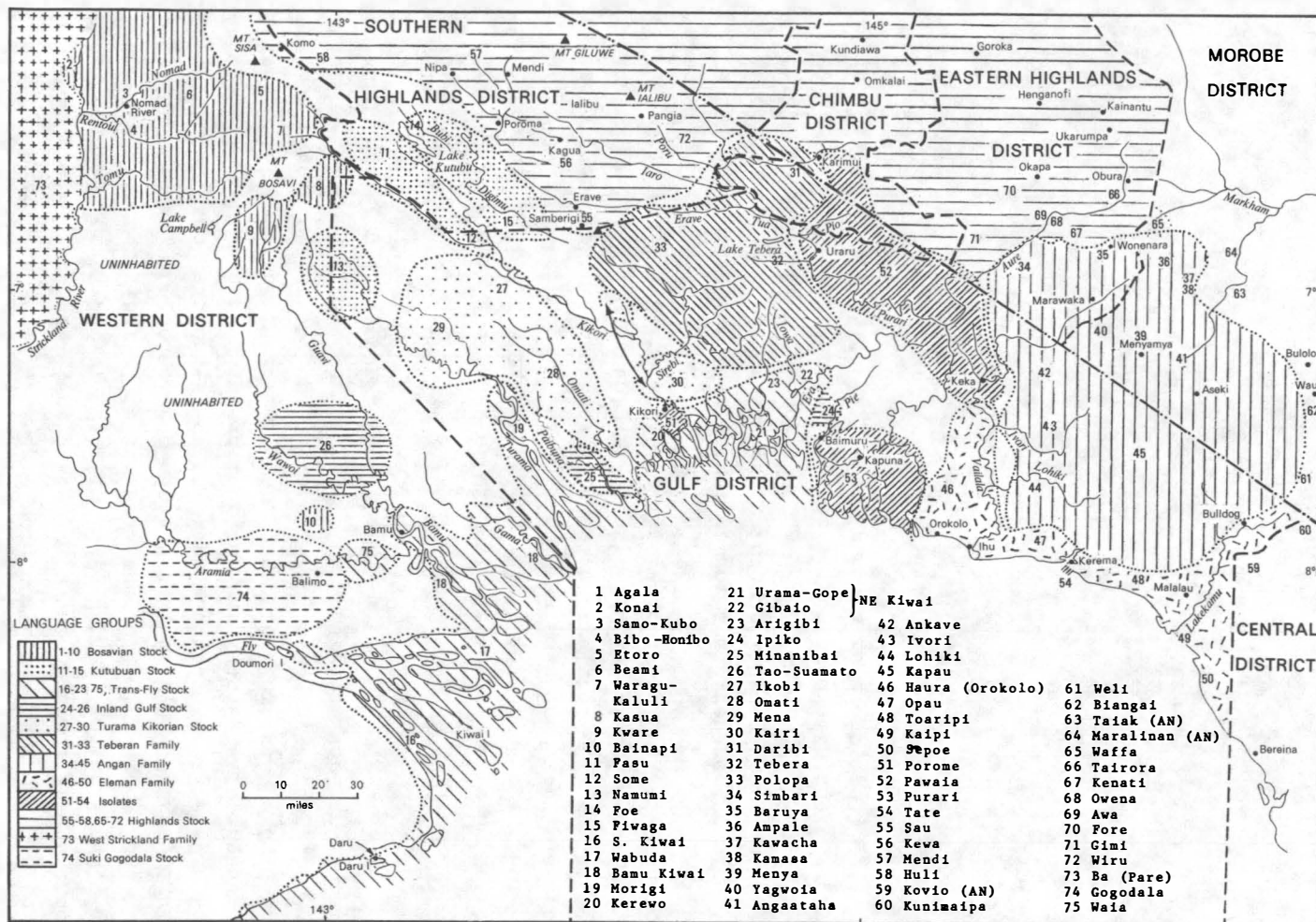
The possibility of combining the ENGH Phylum and the CSNG Phylum into one large phyla was added as a late note to Wurm's article. In the light of Greenberg's hypothesis (see below) even this possibility can now be considered as conservative. Now (in 1972) Wurm has established a Trans-New Guinea Phylum. This includes the following stocks and families: Central and South New Guinea Stock, East New Guinea Highlands Stock, Angan Stock, Turama-Kikorian Stock, Kutubu Stock, Teberan Family, and Pawaian Family. He also mentions two unrelated phyllic groups: the Inland Gulf Stock and the Eleman (or Toaripian) Family. He does not mention Porome or Tate. Wurm's classification is in keeping with our knowledge at that time. Certain modifications which were not supplied to Wurm earlier will be outlined in §1.34.

1.33. J.H. Greenberg

In 1971 Greenberg published studies with evidence to demonstrate that the bulk of the NAN languages of Oceania belonged to a single genetically related group. Thus not only were seven New Guinea groups related to each other, but they were assumed related also to the following groups: (1) Tasmania; (2) Central Melanesia; (3) Bougainville; (4) New Britain; (5) Halmahera; (6) Timor-Alor; and (7) the Andaman Islands.

In his study the seven New Guinea groups are given geographic designations and several of the group include languages or language families described in this book.

Greenberg's classification can best be compared with the one given in this study by the following table (numbers refer to Map I).



MAP 1: LANGUAGES OF THE GULF AND ADJACENT DISTRICTS

GULF DISTRICT LANG.	GREENBERG'S GROUPS	THIS VOLUME
1. Kukukuku	{Southwestern (Marind-Ok) One of five sub-groups	Angan Family
2. Kiwai	{Southern (Kiwaiic) (2-19) Kiwai sub-group	{Kiwaiian Family
3. Urama		
4. Goaribari		
5. Kerewa		
6. Turama		
7. Era River		{Inland Gulf Stock
8. Dibiri		
9. Karami		
10. Eme-eme (Pepeha)	{Barika sub-group	{Turama-Omatian Family
11. Mahigi		
12. Ipikoi		
13. Barika		{Teberan Family
14. Dugeme		
15. Karima		
16. Foraba		{E. Kikorian Family
17. Ro		
18. Sesa		
19. Tumu (Kairi)	{Central (20-23) Highlands sub-group	{Kutubuan Stock
20. Kutubu		
21. Fasu		
22. Duna		{Perhaps E. Strickland F. Teberan Family
23. Mikaru		
24. Elema		
25. Kairi-Kaura	{Eastern (24-30) Elema sub-group	{Eleman Family
26. Uaripi		
27. Toaripi		
28. Milareipi		{Eleman-Purari Stock Isolate
29. Orokolo		
30. Namau		
31. Tate	{Unclassified	{Pawaian Family
32. Aurama		
33. Huaruha		Teberan Family

Greenberg, in addition to giving etymologies for each major group, provides eighty-four words which are considered as common to his Indo-Pacific major group. We will consider his classification as it relates to the Gulf in detail in Chapter 9 of this book.

1.34. The Present Study

In 1968 the author proposed a general classification of the Gulf District languages. The present volume substantially clarifies certain parts of that study. At the same time, we have attempted to be cautious and have been hesitant to group languages within a family, or in some cases, even within a stock without some evidence of regular sound correspondences. In other instances, the broader groupings will have to be accepted with reservations and will need much more study. The geographical distribution of the following classification can be seen on Map I (p. 14) as follows:

Languages 1-4 are in the East Strickland Family; 5-9 are in the Bosavian Family; 10 is at present the only member of the North Aramian Family and all of these are members of Voorhoeve's CSNG Stock. Languages 11-13 are in the West Kutubuan Family; 14 and 15 are tentatively placed within the East Kutubuan Family. These may belong to the CSNG Stock or they may be members of the Highlands Stock. Rule (1965) compared both Huli and Pole (S. Kewa) of the WC Family with Foe of the East Kutubuan Family. His conclusions, based on lexical and grammatical evidence, is that the languages may be, at the most, on a Stock-level relationship. On the other hand, there are obvious linguistic and cultural features with them and the Teberan Family (languages 31-33) to the east. In that Wurm has already included Teberan and Pawaia (52) as family isolates within his Highlands Stock a. Connection between all of these areas is implied. Languages 16-32 are Kiwaian; 24-26 constitute the Inland Gulf Stock and are the obvious remnants of a group which once probably inhabited a larger area of the Gulf; 27-29 comprise the Turama-Omatian Family and 30 is the apparent sole member of the East Kikorian Family; 34-45 are in the Angan Family; 46-50 in the Eleman; 53 is probably in the Purari-Eleman Stock; and other languages of the Gulf District (51, 54) have unknown affiliations. Other languages listed on the map surround the linguistic groups described in this book.

As a result of Brown's study (Chapter 8), Purari (Koriki) can be joined with the Eleman Family as the Purari-Eleman Stock. However, the placement of this stock within a phylum such as the Trans-New Guinea

one is uncertain at this stage.

It should also be pointed out that the relationship of the Angan Family within the Trans-New Guinea Phylum is tenuous at best. Its links with the ENGH languages have been found by Lloyd (Chapter 3) to be very slight (a 5-6% lexical relationship). Its relationship to the Kunimaipen or Pawaian are even less (3-4%), and there is no apparent relationship between Angan and Eleman or AN languages. Therefore to place Eleman within the Trans-New Guinea Phylum would imply a relationship between it and Angan, in that Wurm (1972) has placed Angan in the phylum. Nor is there any relationship of note (3-4%) between Angan and the Huon area.

Of the languages in the Gulf, this leaves only Porome (Chapter 7) and Tate (Chapter 8) without any known relationships. We have commented more on them in Chapter 9, in that Greenberg feels that all unclassified languages of New Guinea must (almost by definition) be a part of his Indo-Pacific Family. Brown's speculation on Paepa Tati (our Tate) has already been mentioned.

One language outside of the Gulf should also be commented upon. This is what we have called Waia, after a village of the same name near Mapoda on the Aramia River of the Western District. It is spoken at the villages of Waia, Saiwase, Garu, Alagi, Tabepi, and Arikinapi. Two villages on the Fly River are also said to speak the same language. Waia shows generally a 10-12% lexical relationship with languages of the Kiwaian Family, but over 15% with Gogodara. The language is located adjacent to both groups and may be a member of what Voorhoeve (1970) has described as the Suki-Gogodara Stock. Capell (1962; Map X) has noted a language called Kenedibi in the Waia area, but says nothing about it.

MacDonald's chapter gives reliable linguistic information on the Teberan area for the first time. Capell (1962:139) indicated that a group of people lived on two islands of Lake Tebera. His report from the Australian Petroleum Company (APC), gave the population as 1,000, but as MacDonald shows, this is not the case. It is interesting to note that at the time of earlier contact (reported in the *Annual Report*, 1928-29, p.28) there is no mention of people living on the lake.

There is some likelihood that certain languages in the Gulf or adjacent areas may be related to those in the Upper Sepik. This has been hinted at by Townsend (1969) for the Sepik ~~Hill~~-Teberan Families and more recently (1973) Conrad and Dye have noted a similar relationship between the Upper Sepik area and the Strickland Family. Obviously,

there is a great deal of further study needed before the two areas can be positively united, despite Greenberg's (1971) assertion that all of the NAN of Papua New Guinea belong to one family.

1.4. Materials and Methodology

It is obvious that the conclusiveness of any classification, such as the one proposed here, is only as reliable and complete as the materials upon which it is based. The studies of the Eleman (Chapter 8), Angan (Chapter 2), Teberan (Chapter 3), Kiwalian (Chapter 6), East Strickland (Chapter 5), and to some extent, the Bosavian and Kutubuan (Chapter 4) are the most reliable. Each of the authors has done a detailed study of at least one language in the family and has been able to make a more accurate assessment of language relationships as a result.

The other area studies are less reliable and are based almost solely upon lexical evidence. The word list which was used consisted of 292 words of Wurm's TRIPP list plus an additional twenty-three words which are on the standard SIL survey list, but not on Wurm's. In some cases only shorter lists were available, mainly due to problems of monolingual elicitation. Whenever possible the full 100 Swadesh word list has been included in the Appendices at the end of this book.

Oswalt, in a recent study (1971), uses statistical formula based on pairs of shared cognates and divergence of such pairs between language families to arrive at a "relative stability index" for the Swadesh 100 word list. The same technique is used to test semantic groups, e.g. pronouns, body parts, adjectives, and so on. This results in a proposal to drop at least twenty items from the Swadesh 100 list as being quite unstable due to divergence factors. We have not attempted to check the percentages given in this study by dropping the vocabulary items which Oswalt suggests are unstable.

McElhanon has also recently (1971) summarised the problems associated with classifying New Guinea languages and has suggested what might be done to reduce the number of variable inherent in any such system of classification. He suggests a uniform, revised test list; an agreement on what constitutes lexical equivalents; refinement of eliciting techniques; agreement on the use of lexical percentages, intelligibility and other criteria; and cross-checking between scholars. In this study we have attempted to resolve the latter problem by an overlap of data between areas, where two or more authors have then examined the data. The more acquainted an author is with a language in an area will

determine to what degree his analysis will reflect universal features which are not superficial. For example, someone more familiar with the languages outlined in Chapter 7 could compare them more accurately than I have been able to do. On the other hand, my observations on the relationship of Gulf languages and West-Central Highland languages should be accurate, regardless of additional details.

Wurm (1972:145) "is generally in agreement with McElhanon's opinions on the subject, though he is inclined to take a somewhat more moderate view."

Laycock (1970), after examining the eight basic wordlists which have been used in Papua New Guinea linguistic surveys, concludes that out of 357 entries only fifty-six of them can be considered reliable, although an additional twenty-three should also always be elicited. Other linguists would undoubtedly score the reliability of the vocabulary items differently than Laycock, reinforcing McElhanon's contention that linguists should cross-check this data. Laycock's reliable items in fact include less than half of the ones which McElhanon and Voorhoeve (1970) treat in establishing the Trans-New Guinea Phylum.

In this study lexicostatistical figures were derived on the basis of inspecting and comparing the various word lists. No attempt was made to adjust percentages when the word lists were not of the same length. Although this is plausible and has been done elsewhere (for example in Voorhoeve 1965), it does not in anyway affect major groupings. Indeed, if Greenberg (1971) and Wurm (forthcoming) are correct, all Papuan languages are genetically related at some remote point which lexicostatistical evidence would probably not even suggest. Lexicostatistical figures were established by comparing fifty languages (the author), twenty-nine languages (Lloyd), twenty-four languages (MacDonald) and nineteen languages (Shaw), in each case with overlap of a few languages between authors for cross-checking. In addition the author did a lexicostatistical study of the work of Riley and Ray (1931, see Chapter 6) as a further check of his own Kiwai materials. After the word lists has been inspected and coded the information was fed into a computer with instructions for five separate outputs: (1) a percentage based on a comparison of the full word list in each language (i.e. up to 315 words, but in many cases less); (2) a percentage based on the full word list less twenty-four assumed cultural items; (3) a percentage based on the cultural words only (see also Chapter 10); (4) a percentage based on the SIL basic survey list, i.e. deleting known reduplications and other problem words, some 154 words; (5) and a percentage based on the Swadesh

100 word list which, with the deletion of troublesome words and duplicates, resulted in ninety words being compared.

It was assumed that if two languages shared a fairly low percentage (say below 10-15%) on the full list, then the corresponding shorter SIL and Swadesh lists would increase the percentage. On the other hand the full list without cultural items should lower percentages, especially in adjacent languages not thought to be genetically related. The cultural list alone should of course increase the percentage out of all proportion to the other lists, if there was in fact a great deal of culture contact between two or more areas.

For an example of the corresponding percentages from the five different outputs notice the following (from MacDonald) languages which are in a left to right geographical distribution, but which are not closely related. F means the full list, L means less cultural items, I means SIL, S means Swadesh, and C means cultural items.

FOE (E. Kutubu F.)

7	9	8	11	7	SAU (W. Central F.)					POLOPA (Teberan F.)					PAWAIA				
10	9	10	9	20	12	12	11	16	10	13	14	16	23	8					
7	6	8	8	20	4	4	4	5	7										
F	L	I	S	C	F	L	I	S	C	F	L	I	S	C					

By examining the above figures (which appear to be representative of what has generally been found) we can see that the shorter list does at times increase the percentage: note that between Polopa and Pawaia there is an increase of ten points between the full and the Swadesh lists. However the cultural list shows a lesser relationship, suggesting that we explore the hypothesis that Polopa and Pawaia are genetically related. On the other hand the figures between Polopa (or Pawaia) and Foe suggest considerable cultural contact and influence, but a more remote genetic relationship: ten points, in the case of Polopa, or thirteen in the case of Pawaia, are added if only cultural terms are compared. The relationship of Sau and Foe or Sau and Pawaia does not change significantly regardless of the list used, so it is not possible to form any hypothesis on the basis of these figures. Although such percentage discrepancies undoubtedly have other variables that are not controlled, it is possible to study the effects of longer and shorter lists, with

implications which then follow about core vocabulary and culture contact. In a careful study of thirteen languages known to be related the presence of cultural items in the full list raised the average percentage by only 1% as against the full list without the cultural items.

Dutton's study (Chapter 10) is of particular interest in regard to the distribution of such assumed cultural items. Transitional zones correspond to areas where linguistic relationships are quite remote. Aside from being the most extensive analysis of a restricted set of vocabulary items, it also gives the broadest geographical treatment to date.

Two other facts should be mentioned about the data: (1) in some cases we used lists which may skew the percentages downward. There were lists published in early issues of *Annual Report*, and often the villages of people are no longer in the stated area. Nevertheless, such lists may suggest earlier dialects or languages in such areas; (2) where lists have been collected in remote areas under difficult circumstances, as from speakers living at the headwaters of the Turama or from speakers using two interpreters, the percentages are undoubtedly higher than those we have computed.

1.5. Presentation

The lexicostatistical figures mentioned above are generally introduced at the beginning of each chapter. Following this, comments are made on the location and number of speakers of each language. The population figures are based on government census figures. The spelling of village names and the census division names follows the 1968 government *Village Directory*.

In the fuller studies, comments on the phonology and grammar are given. They vary according to the materials available and knowledge of the author.

An attempt is made in every case to describe relationships which are broader than the family level. For example MacDonald's study in Chapter 3 includes comparisons with Pawaia. The concluding chapter by Dutton goes considerably beyond the Gulf District and some of the groupings proposed solely on linguistic evidence.

A legend at the conclusion of each chapter gives an alphabetical listing of all languages described in the article. The language family for each language is given in parenthesis after the language name. Although language names are not in every case exhaustive, they do provide a valuable cross-reference to other sources such as the

Ethnographic Bibliography of New Guinea or Capell (1962a).

Each chapter closes with a selected bibliography. However certain often cited items not found at the end of chapters are listed in the general bibliography which concludes this introductory chapter.

The main Appendices precede the bibliography and give as many words of the Swadesh 100 list that were recorded for each language described. A fuller description of the primary data also can be found at the conclusion of each chapter.

1.6. Acknowledgements

The survey was begun in December 1970 with the author as principal investigator. The first part of the survey was undertaken by the author, Mr George MacDonald, and Mr Jim Parlier. Mr Parlier, although he has not contributed to this book, was particularly helpful in the early part of the survey. Mr Richard Lloyd, assisted by Mr Ron Huisman, carried out all of the survey in the Angan area and Mr Dan Shaw and the author surveyed the Strickland River area.

Professor Wurm, who has encouraged us in the survey from the very beginning, also kindly consented to write Chapter 6. In addition to his own Kiwai materials we have supplied him with some word lists from the survey.

Drs. Dutton and Voorhoeve, each with considerable experience in Papuan linguistics, have combined their own extensive materials with some supplied as a result of the survey. Their contributions have been deeply appreciated.

The survey was made possible by research grants from the Australian National University and the Research Fund of the New Guinea Branch of the Summer Institute of Linguistics (SIL). The aviation department of the SIL provided full use of their helicopter, a Hughes 300C, and many hours were flown on it. The radio department of SIL provided portable transceivers which were used during the survey. Survey operations were carried out from Samberigi (Southern Highlands District), Kikori, Baimuru and Kapuna (Gulf District), Mapoda and Nomad River (Western District), Karimui (Chimbu District), as well as Aiyura in the Eastern Highlands. We are very appreciative of the hospitality and cooperation of the Asian Pacific Christian Mission (APCM) at Samberigi and Mapoda, and of the United Church (UC) at Kikori and Kapuna. In addition, with the assistance of the District Commissioner at Kerema (then Mr R.S. Bell) and the field officers at Ihu, Baimuru, and Kikori,

we were able to freely use interpreters, maps, and other materials. We can only offer our profound thanks to all of the people concerned and hope that the survey will be of some practical benefit for all of them. Specific acknowledgements to others are made in individual chapters.

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Appendix

Certain abbreviations are used commonly throughout this volume. For language groups these are:

AN	Austronesian
ENGH	East New Guinea Highlands
CNG	Central New Guinea
CSNG	Central South New Guinea
NAN	Non-Austronesian
SENG	South East New Guinea
WNGH	West New Guinea Highlands

For journals and other publications abbreviations are:

AL	<i>Anthropological Linguistics</i>
CTL8	<i>Current Trends in Linguistics, Volume 8: Linguistics in Oceania</i> , T.E. Sebeok (ed.)
IJAL	<i>International Journal of Linguistics</i>
JRAI	<i>Journal of the Royal Anthropological Institute of Great Britain and Ireland</i>
OL	<i>Oceanic Linguistics</i>
PL	<i>Pacific Linguistics</i> (A = Series A, B = Series B, C = Series C)
SHC	<i>Studies in Honour of A. Capell</i> , S.A. Wurm and D.C. Laycock (eds.)

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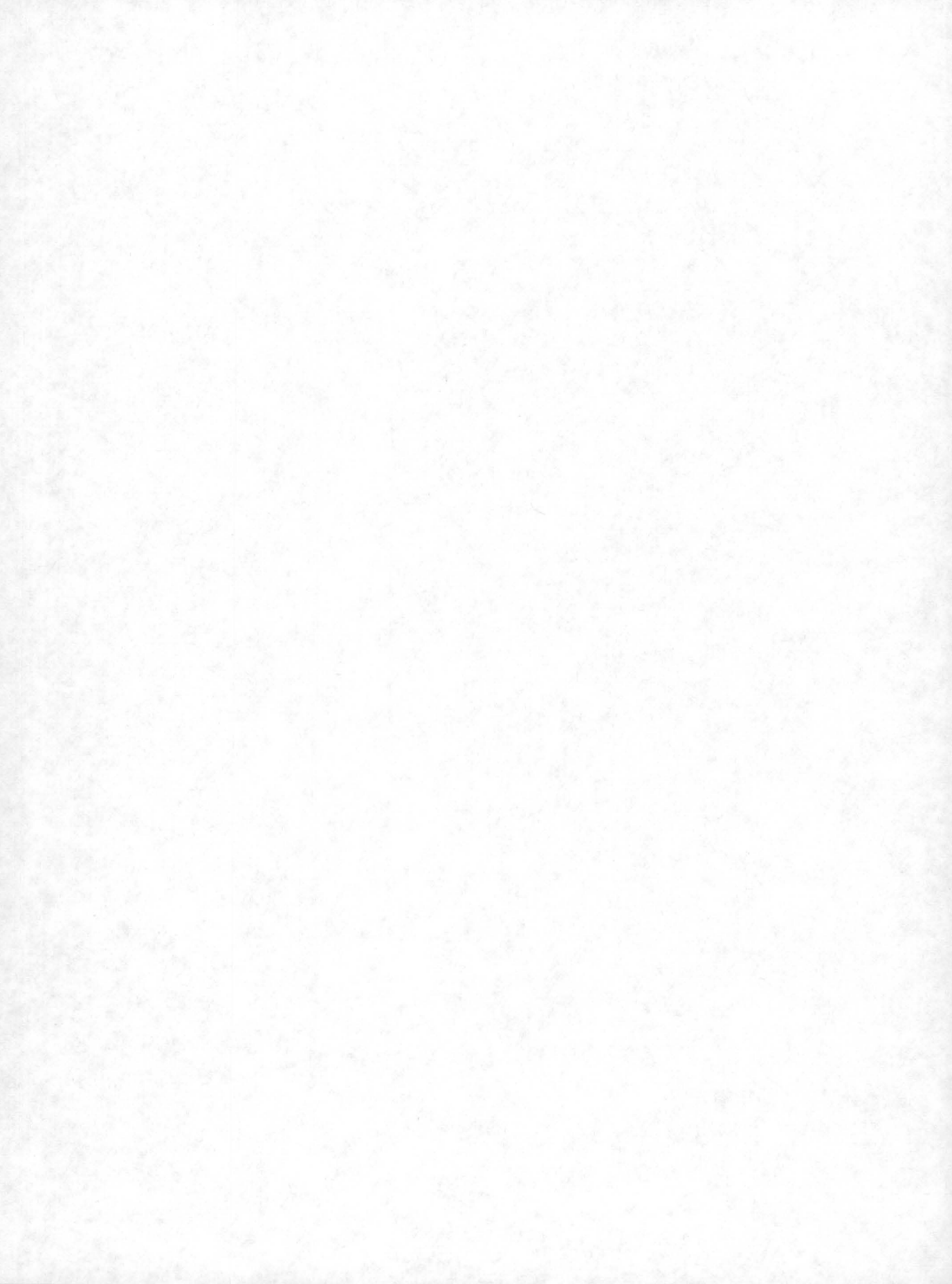
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CHAPTER 2



THE ANGAN LANGUAGE FAMILY

Richard G. Lloyd

2.1. The Anga People and their Languages

This comparison presents the twelve Angan Languages as a Family, though one language is diverse from the rest. Angan languages were formerly called Kukukuku (see Appendix A for a discussion of these names). Angan languages are unrelated to the Austronesian and Eleman languages which border them. They show a very distant relationship to the East New Guinea Highlands languages (5%), the Kunimaipen languages (4%) and the Pawaian language (3%).

The relationships between the languages were established by the comparison of lexical lists ranging from 161 to 179 words. Cognates were recognised by inspection, any doubtful instance having at least half the phonemes the same and in the same order or regular sound shifts accounting for the difference. The lexical comparison is supplemented by outlines of the phonology of each language. Finally available grammatical outlines are presented. Very extensive materials are available in Kapau, Ampale, Baruya and Angaataha. Some material is available in Menya and a little in Yagwoia and Simbari. Dr Hans Fischer worked with one dialect of Yagwoia and the Kawacha language. He also has some information on the Kamasa language (see Appendix G). Only word lists were available in Ankave, Ivori, Lohiki, Kawacha and Kamasa.

Some Angan languages appeared in early word lists published in the Annual Reports (AR) of Papua (or British New Guinea). Most lists are of the Kapau language, but there are two Lohiki lists. Lohiki is called Kukukuku on page 173 of AR 1912-1913. It is called Mai-hea-ri, an Haura (Eleman) name for Kukukuku, on page 95 of AR 1917-1918. This last list is not a very accurate one but is definitely Lohiki.

In the 1930s Dr Capell took a wordlist and some grammatical notes of a language he called Obi, which is also the Lohiki language.

Capell (1962) talks of the 'congeries of tribes known collectively as 'Kukukuku'. He says his Obi language is different from Kaviropi (Kapau). He mentions three groups of 'Kukukuku', the Upper Tauri (Menya), Eastern Vailala (Lohiki) and Lakekamu (Kapau). He says 'Nothing more can be said at present about these inland peoples: they remain a subject for future study', page 141. This present study is a partial answer to his statements and supports the above claims.

Wurm (1960) mentions the Anga as a possible linguistic grouping. In Capell (1962) Wurm also notes the Wantakia (Baruya), Simbari and Menyamya (Yagwoia).

Drs. Voegelin (1965:40) present a Kukukuku Family, which included non-Angan languages. They over emphasized Capell's reference to Samberigi which is better known as Sau of the West Central Family of the East New Guinea Highlands Stock. The languages they mention around Mumeng are Austronesian and languages (5) and (6) of their list are the two dialects of Baruya. The alternate name Menyamya (7) had been used for Yagwoia speakers, but it is more appropriate for the Menya language. Language (8) Banir covers Dr Fischer's work and probably refers to Ampale (Sesere).

Franklin (1968:40n) reports on Voegelins' work and includes some comments by this author.

In the Ampale, Angaataha and Baruya languages Text Concordances have been made on the IBM 1410 computer at the University of Oklahoma by the Linguistic Information Retrieval Project of the Summer Institute of Linguistics and the University of Oklahoma Research Institute and sponsored by grants from the National Science Foundation.

The main field work and resultant analysis were carried out in the latter half of 1971. The author's interest however extends back as far as 1961 when he and his wife began working in the Baruya language and collected short word lists from Anga men who came to work in the area.

The author acknowledges the very real help of personnel from the Lutheran Mission, Menyamya, the New Tribes Mission, Slate Creek and Marawaka, and the United Church at Moru. Without also the extensive unpublished manuscripts made available from SIL colleagues (see Bibliography) the comparative aspects noted in this paper would have been impossible.

Administration officers at Kerema, Ihu, Kaintiba and Menyamya freely offered the use of their interpreters and made maps and census figures available. The interpreters John, from Ihu, and Gunga Din, from Kerema, gave many hours help.

The Angan languages are spoken in an area of approximately 4,500 square miles straddling the Papuan New Guinea border between 145°30' and 146°40' East longitude and between 6°45' and 8° South Latitude. The area is roughly 70 miles down by 65 miles across. (See Map 2). The latest population figures show 65,500 Anga people.

The Anga people basically belong to the mountains. They are usually short, wiry, virile and noted for their warlike tendencies. They are forceful in manner and speech.

Dress throughout the area is fairly uniform. Traditionally men wear a bushy reed sporran-like skirt, a small bark cape over the buttocks and in most tribes tied loosely around the neck with home made string. An additional bark cape is often suspended from the crown of the head. Cassowary bones are worn across the top of the sporran skirts. Stomach bands, chest bands and arm bands above the elbow are commonly worn. Women wear several bark capes and many necklaces, particularly when younger. All ages and both sexes have shaven heads except for a tuft at the crown.

The Anga practise shifting agriculture within a defined area. They raise pigs and dogs. In the past it seems that hunting played a greater role in food gathering techniques. Most Angan people make salt and this process has been perfected by the Baruya or Batiya (cf. Sinclair 1966). Irrigation is practised in some areas.

The Anga are animists who give special importance to the sun and moon. They are patrilineal and usually have patrilocal residence. They live in family houses and in most areas used to live in hamlets of about four houses. They practise sympathetic garden magic, and shamans who control healing spirits 'exorcise' sickness. Sorcery is practised to a lesser degree than in other highland areas. There are no chiefs as such, but in time of war they look to fight-leaders, in time of sickness to shamans in time of ceremonies to qualified men. The younger boys undergo a complex series of initiations before they marry and establish a family house of their own. The Commonwealth Film Unit of Australia has produced a series of anthropological films about the Baruya entitled 'Towards Baruya Manhood'. Smoking of the dead as reported by Simpson (1953) is quite widespread. Simpson's book is a popular account of the Anga. Dr Maurice Godelier of the University of Paris has done extensive anthropological field work among the Baruya.

In this paper all citation forms, except in the phonology, are usually written in a modified phonemic orthography. However in Simbari, Kawacha,

Kamasa, Ankave, Ivori and Lohiki, where only word lists are available, the words remain in a narrower transcription.

To maintain consistency various orthographies have been modified. The letter s represents [ʃ] in Kapau, [tʃ] in Menya, Yagwoia, Baruya, Ampale and Angaataha, while z represents a fricative ɣ in Menya, [ʒ] in Baruya and [s] and [z] in Ampale. The symbol q is used for a backed velar. The letters f and v represent voiceless and voiced bilabial fricatives. Glottal stop is represented by ' (apostrophe). The velar nasal is represented by ng, the mid low vowel by aa, and the neutral vowel [ə] by ɨ.

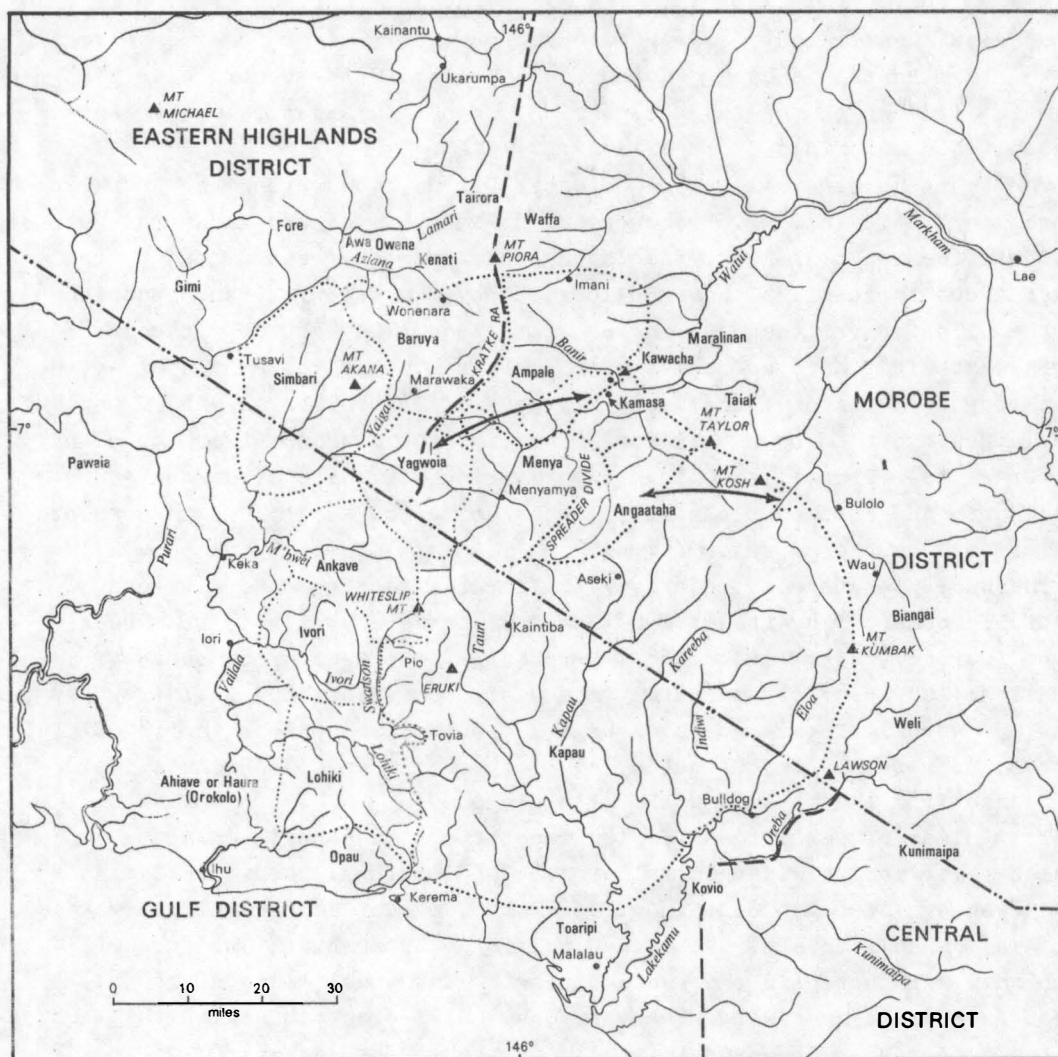
2.2. Lexicostatistical Overview

Table of Cognate Percentages of Angan Languages

	Kap	Men	Yag	Bar	Sim	Amp	Kaw	Kam	Ank	Ivo	Loh	Ang
Kap		75	56	42	39	54	50	46	50	38	39	28
Men	69		58	40	36	54	45	48	43	32	32	24
Yag	47	50		44	37	51	43	39	36	33	31	24
Bar	41	38	42		67	49	38	31	33	28	27	23
Sim	35	33	34	60		44	37	30	32	26	24	23
Amp	49	47	46	45	38		54	44	40	32	33	22
Kaw	43	41	36	34	32	51		47	41	31	31	19
Kam	40	41	32	29	27	40	45		37	26	27	21
Ank	46	41	33	30	29	36	38	33		56	54	22
Ivo	35	32	28	25	24	29	28	24	54		75	22
Loh	38	32	27	26	25	30	29	24	50	68		21
Ang	29	24	21	23	21	22	21	20	20	19	21	

Upper figures are Swadesh 100 word list.

Lower figures are 170 S.I.L. word list.



MAP 2: THE ANGAN LANGUAGE FAMILY

2.3. Kapau

Kapau, the largest Angan language, covers about 2,000 square miles, and has a population of 32,190. Of these, 11,700 people have been censused in the Gulf District and another 150 people are estimated. Another 20,340 Kapau speakers are administered by the Morobe District. In the Gulf District Kapua is known as Kamia, a term of unknown origin. Some Kapau speakers have objected to the name of a river for themselves so the term Hamtai is being introduced. Hamtai is the centre near Kaintiba from which the Kapau expansion began. As Kapau is better known in published materials it is used here.

The Kapau border follows the Spreader Divide, then along the Kukukuku Ranges to Mt. Taylor, Mt. Kosh across the Watut River and along the Bulolo Watut Divide to Mt. Kumbak, then along the Kodama Range and down to the river about three miles above Bulldog, along the Tiveri to the junction of the Olipai River thence swinging west along 8°00' south. It goes north west after Karova Creek to the jetty at the top of Matupe River, then roughly north past the Kapau villages of Mamuro, Yawangeni, Paingoba and Tamdekengo then down the Ivori River, up the Swanson River and along Wia Creek near Pio village and along the ridge to White Slip Mountain then north and east to include villages Kwaiyu and Kwoi'imnga to complete the circuit at the Spreader Divide.

The Kapau language is relatively uniform, with regard to dialects, specially considering its extent. Word lists were available from Upper Watut (Morobe), Hepe (mid south), Hauwabanga (the Hawi group north of Kaintiba; 100 words), Kotombaiwa (mid west from Kaintiba), Wagi (further west; 50 words), Famba (north of Wagi; 50 words) and Mamuro (north of Kerema; 50 words). Unfortunately no list other than old AR lists, were available from the south west Pmasa'a group.

Tom Palmer of New Tribes Mission reports that the Hawi replace a backed velar stop q with glottal stop. The list collected from Lamaani of Hauwabanga does not contain glottal stop, except before initial vowels. This may be an idiolect. No backed velars occur in Hawi, but further west they were noted in the Wenta dialect. The vowel i was noticeably lower in Hawi in some words such as *nose*. Hawi also had a k in the last syllable of *auka cloud*, and initially in the word *kaaoa fat*.

Most lists had hingo wiqa *neck* but Kotombaiwa had hi'o (note glottal) and Morobe heqo. Morobe was na'a *big* but all others were haava. Hauwabanga and Wagi had yota *smoke* but the others were tivaaka. Hepe, Kotombaiwa, Famba and Mamuro had sunka or suqa *foot* and the others yanga. Morobe h normally remained h in the other dialects but Morobe hewa *skin*

was fewa in all the others.

The Pmasa'a group are reported to replace Morobe glottal stop with backed velar q, as the Menya language does. The AR list from Madinava village lists *water* as eqa, (Morobe is e'a) and *dog* as hiveqa (Morobe is hive'a). The AR list has two forms for several words which alternate g and ng, as in aga and anga *house* (compare Ivori and Lohiki). *Skin* is listed as heva, initial h as in the Morobe dialect. The v in this word may represent w, but *woman* also has v, as it does in other dialects. The AR list for Ashavi village is very much like the Morobe dialect, but has hiuga *foot*, which may have changed to suga, as in some dialects.

2.31. Phonology

The analysis of Kapau phonology follows that of Healey (1958).

The 12 consonant phonemes are p, t, k, q, ' (glottal), m, n, ng, v, y, w, h. The seven vowel phonemes are i, ɪ, u, e, a, o and aa. The Kapau Pedagogical Grammar (Oates 1968) uses a practical orthography in which ɪ is unmarked and glottal following stops is also unmarked. The phonemic combinations vh and yh are written f and s.

Word initially or preceding glottal the voiceless unaspirated stops remain voiceless, but become voiced between vowels or following nasals. Aspirated stops have been interpreted as two phonemes, stop plus h.

The nasals have voiceless counterparts when followed by h. Before velars there is no contrast between n and ng. The phoneme ng only occurs word medially.

The bilabial v only occurs word medially. Unlike the stops combinations of v and glottal do not produce a voiceless counterpart. However the sequence vh is phonetically f (voiceless bilabial fricative).

The phoneme y is often a fricative (z) as in azure, when occurring word initially. The sequence yh is phonetically [ʒ], as in *ship*.

The sequence wh is phonetically [w] (voiceless).

Syllabic nasals are common. All the nasals in the word mtmtma *picking and dropping nuts* are considered by Tom Palmer to be syllabic.

The vowel i becomes [ɪ] before nasals.

The close vowel e has an open variety, as in deck, occurring before q. The sequence eaa is phonetically [æ].

The low vowel aa is usually slightly longer than a.

The central vowel ɪ is not common. All vowels occur word initially, medially and all but ɪ are word final. Clusters of two vowels are iu; ui, uo, ua; ei, ea, eaa; ai, au; oi, ou, oe, oa, oaa; and aai, aaui. Clusters of three vowels are uai, uea; oea, oeaa, oaaui, oaaui.

Except for ' (glottal), ng and v all consonants occur word initially. All consonants occur word medially. Only m and n occur word finally. These two also occur syllable finally, word medially, but here glottal also occurs, preceding y and w. Glottal also precedes nasals but these are syllabic and perhaps ɨm, ɨn etc. Tom Palmer interprets v'v and n'n as 'v and 'n, which this author has written as v' and n'. Glottal has also been observed following stops. As ɨ has not been written in the extensive materials it is hard to sort out the evidence here, but other syllable final consonants may also occur.

Word initially all consonants but glottal, h, ng and v occur preceding h. Word medially, but syllable initially all but glottal and h occur preceding h. Until consonant-glottal-consonant and stop-glottal sequences are resolved distribution of phonemes cannot be concluded.

Phonemic stress occurs, but has not been completely analysed.

2.32. Grammar

The Kapau Pedagogical Grammar (Oates 1968) is a good survey of Kapau grammar and is the major published work on any Angan language. The brief outline here is based on their research plus discussions with Mr Tom Palmer. Any departures are intentional and this author's responsibility. References to Oates (given in parenthesis) allow a comparison.

Equational Clauses in Kapau consist of Subject and Predicate functions. Occurring in Subject function are Modified Noun Phrases (section 1.) with many variants, including only an adjective or demonstrative as its manifestation, or Possessor Noun Phrases (2.1.), or Appositional Noun Phrases (12.5.1.) or Co-ordinate Noun Phrases (14.1.) or Pronouns (section 1.) or Included Clauses as discussed in section 19. Also in Subject function are location words and, rarely, time words. Occurring in Predicate function are verb particles with the following moods ti (indicative) (1.1.), maa (contradictive) (11.3.), taa (interrogative) (10.1.), pi'ya etc. + ti what + is (question) (10.5.1,2,3.) and manga + ti perhaps + is, (dubitative). yaaqoe'a manga ti pig perhaps is *It might be a pig*. Instead of a negative equational mood, a negative stative of the verb he *be* occurs. The question mood here may prove to be a variant of indicative with the question word occurring within the noun phrase in Subject function. The dubitative may work similarly.

The elements occurring in noun phrases are nouns (1.2.) including attributive nouns (1.2.2.) ime'aa aapaka child (female) *a girl* and yaaqoe'a aanga (pig) house *a pig house*, adjectives (1.3.), demonstratives (1.3.4.), possessor words of phrases (section 2.) The status of numerals

(14.6.) is not clear. By changing position of items in the phrase different emphases are given (section 1. especially the note in 1.3.4. and 2.1.) Clitics also occur with noun phrases; they occur following the final item of the phrase (section 12). The personalizing clitics in their basic or Subject form are given in masculine and feminine (12.5.)

Masculine personalizing clitics

	first person	second person	third person
singular	-on	-oi	-qo
dual	-qoaaI	-qoaangul	-qoaa'u
plural	-onai	-ohen	-'oaa

Feminine personalizing clitics

	first person	second person	third person
singular	-n	-i	-i
dual	-saai	-saangul	-saa'u
plural	-iyonaI	-iyohen	-iy'oaa

Other clitics are -'i (indirect object marker) (20.3.2.), -'ma (concerning a thing), -'na (concerning a person), -nga (emphatic), -ma (only a thing), -na (only a person) and locative clitics. Locative clitics are -u *on, at, at the time*; -'i *at, on, in sight*; -m *in, out of sight*; and following other morphemes -'na *to*, -ntaa *from*. The possessor clitic is -'iya. The clitic -'i *at, on* may be the indirect object marker functioning as a locative marker. Multiple clitics may occur (12.6.). Besides the bound clitics function words are discussed in 14.1. accompaniment, co-ordination, alternation, and 14.4. which seems to be a kind of locative. Instrument function is not discussed, but may be included with fa, ha (with a thing) (14.1.).

Subject Personal Pronouns are

	first person	second person	third person
singular	ni	nti	qal
dual	yaaI	qi	qi
plural	nai	hal	qui

The common forms occurring in 1.4. for third person are demonstrative pronouns, aqo *he* consists of a *that* and -qo (masculine third person singular subject). This is true also of Group Pronouns (1.4.4.). Possessor Pronouns (2.1.1.) consist of Personal Pronouns plus possessor

allomorphs -qa, -'a, -'aa, -'ya.

Non equational clauses are not discussed as such by Oates though their Simple Sentences are manifested by single clauses. The various verbs that manifest Predicate function though have been discussed in detail. Other optional functions that occur with the Predicate are Subject *ni I*, Location *tiya here*, Time *aankina yesterday* and Manner *quyv'a badly*. As certain stems in the Predicate occur with other optional functions such as Object, Indirect Object, Instrument, and other stems never do, different clauses are established. Thus there are Intransitive clauses with *p come*, *pmaa live*, Transitive clauses with *'an see*, *'i hit*, *n eat*, and Ditransitive with *taap give*. See object person prefixes for structural reasons also.

Kapau verb stems are simple (single morpheme) or complex (usually two morphemes, but sometimes three) (3.1.1.a). Some stems are always active (express the action of doing) and some stems are always stative (express the state of being) while others appear to be either. Compare *maa get* (active) and *maa have* (Stative), *hai or he put* (active) and *hai or he be or become* (Stative) (3.1.1.b). It may be that the word is stative rather than the stem. Verb stems of primary rank are *i do* and its stative counterpart *hai or he be or become* because of their wide useage. Other verbs are of secondary rank (3.1.1.c). Note that *i do* also occurs in a stative verb.

Independent verbs (Primary 3.2.) nearly always occur sentence finally and express mood, tense aspect, subject and object persons.

Object person prefixes obligatorily occur with Ditransitive verb stems such as *taap give*. They optionally occur with transitive stems and never occur with intransitive stems. The object person prefixes (7.2.) are

	first person	second person	third person
singular	n-	qaa-	u- , w-
dual	aaa-	qaa'-	u- , w-
plural	naa-	he-	u- , w-

The semantic Noun-Verb expressions of section 5 are a feature of Kapau grammar, *aapa qi'ya dance I-do I dance*. The Kapau Dictionary (no date) lists 116 items which occur with *i do*.

In the following discussion of the Kapau verb the term stem will cover verb roots and any affixes peculiar to that root, such as object person prefixes. Voice categories follow the stem and need more analysis (16.6.). These will not be included in the verb discussion here. Voice suffixes

are -n (reflexive), -ati (repetitive), -hai (completive). The reflexive suffix also occurs with the other voice suffixes.

Various ways of expressing mood divide Independent verbs into three groups.

The Present Tense verbs form one group of Present Active (3.4.2.) Present Complete (3.4.3.1.), Present Durative (3.4.3.5.) and Present Stative (3.4.3.3.). For indicative mood these non-ti tenses all occur with qa- perhaps meaning (indicative), the stem, the appropriate tense aspect suffix and (n) series subject person suffixes. Tense-aspect suffixes are -' (glottal stop) (present active), -mang (present complete), -atong (present durative) and -ng (present stative). Subject person suffixes are listed in Appendix B. When the indicative verb is preceded by a question word (10.5.1.) question mood occurs. Interrogative mood consists of interrogative prefix ta- occurring instead of qa- (10.3.). Contradictive mood similarly occurs with maa- instead of qa- (11.5.). Negative mood is formed by a negative auxiliary verb (11.1.1.) preceding an indicative verb *do* in the appropriate tense aspect. The negative auxiliary consists of maa- prefix, stem and -'a which could be the descriptivizer morpheme (16.2.). m- oeaapa -a not -come down -(descriptivizer) plus qi'i he is doing means *He is not coming down*. Negative interrogative is the preceding construction with ta- replacing qa-, moeaapa ti'i *Is he not coming down?*

The other non-ti tense, Immediate Future (3.4.1.), is the only member of a second group. Indicative mood consists of an optional na- prefix perhaps meaning immediacy, stem, subject person (m) 1 series suffixes and immediate future tense suffix -na. Interrogative mood consists of the indicative verb followed by an interrogative form of the verb *do* in Present Active (10.4.) n-oeaap-m-na t-i-'-a (immediacy) -come down-I- (immediate future) (interrogative) -do-(present active)-I *shall I come down soon?* The first word alone means *I will come down*. Question mood consists of preposing the interrogative form with a question word (10.5.). Negative mood consists of the negative auxiliary verb preceding the indicative form of the verb *do* (11.1.1,2.). moeaapa i-m-na not coming down do-I-(immediate future) *I will not come down*. The negative interrogative consists of the negative auxiliary preceding the interrogative (11.1.6.). Evidently no contradictive mood occurs.

The ti tenses are the simplest mood group. The basic verbs, described below, are followed by ti for indicative (section 4), taa for interrogative (10.2.), maa for contradictive (11.4.), preceded by question word and followed by ti for question mood (10.6.), the negative auxiliary

preceding a basic form of the verb *do* and followed by *ti* for negative mood (11.1.4.). Negative interrogative mood consists of the negative auxiliary preceding the basic form of *do* plus the interrogative particle *taa* (11.1.6.). Future tense verbs are very close to the structure of Immediate Future verbs. The future tense suffix *-ta* occurs in place of *-na* immediate future suffix (4.2.1.).

Immediate Past consists of the obligatory prefix *na-*, stem, *-at* (durative), (m) 1 series subject person suffixes and *-nga* alternating with *-aa'aa* (immediate past) (4.2.2.).

The remaining *ti* tenses all have the structure *qa-* (indicative), stem, tense-aspect suffixes and subject person suffixes. The distinctive suffixes with each tense are

- ' (regular past) and (a) 2 series subject suffixes (4.3.1.)
- ang (distant past and (a) 3 series subject suffixes (4.3.2.)
- mang (habitulative and (a) 3 series subject suffixes (4.3.2.)
- aa'n/-aang (past habitulative) and (a) 1 series suffixes (4.3.3.).

The Past Habitulative Durative occurs with *-at* (durative) preceding the past habitulative morpheme (4.3.3.).

Imperative mood only occurs with second person. It consists of imperative mood prefix *ha-*, stem, and subject person suffix *-i* for dual and plural, singular is unmarked (section 8.). Future Imperatives are vastly different from Imperatives and show some features of subjunctive forms. Tom Palmer reports (personal communication) that they are formed by adding a morpheme *-'* (obligative) after the stem in Immediate Future verbs.

Obvitative mood in group one tenses consists in replacing (n) series suffixes with (a) 3 series for all but Present Active which occurs with (a) 2 series (13.1.). The conjugations in section 20.1.1. and 2. are the same as obvitative mood. With Immediate Future there is no contrast between indicative and obvitative (13.2.). The *ti* tense verbs occur with *heaanqa* instead of *ti* to form the obvitative (13.3.). The verb *heaanqa* is present stative of verb *he be* in third person singular of (a) 3 series suffixes.

In Section 6. 'intention' and 'purpose' are discussed. These appear to be in the general category of mood. For 'intention' an Immediate Future verb is followed by the verb *do* in Present Active to give 'present intention', and followed by *do* in Immediate Past to give 'past intention' and followed by Present Stative of *be* to give 'definite intention' (6.1.). For 'purpose' an Immediate Future verb is followed by any tense of a motion verb, or the verb *t speak*, or a verb with a stative stem (6.2.).

Subjunctive mood in group one tenses consists of stem, tense-aspect suffixes, (mao) series subject suffixes and suffix -nhe (subjunctive) (15.2.). Immediate Future Subjunctive appears to consist of an indicative verb followed by Present Active Subjunctive of the verb *do*. *weaapmna y'mnhe*, I will come down plus I would do, means *I would be going to come down* (15.2.2.). The *ti* tense verbs have the following changes from indicative verbs. Instead of *ti* they occur with *hengohne* Present Stative of *be*, third person singular subject in subjunctive mood. Regular Past Subjunctive consists of a Future form with *qa-* prefix, also called Future Perfect. Future and Immediate Past remain the same and the other *ti* tense verbs occur with (mao) series suffixes, followed by *-ta* future suffix (15.3.).

Avolitional mood consists of the avolitional particle *iwa* preceding an Immediate Future verb compounded with a Present Active verb *do* without *qa-* prefix *ta iwa qaa-n-a-na-i-'-i* fire lest you-eat-it-(immediate future) -do-(present active)-it *It is not good that the fire burn (eat) you.*

The Dubitative (21.3.) appears to be an auxiliary form. Dubitative mood (section 22.) is unsatisfactory, especially the false restriction to future time. There are Dubitative forms in Present Active (21.3.) *qi'imti* *I might do*, Present Complete *qimangmti* *I might have done*, Present Durative *qiyatongmti* *I might be doing*, and Present Stative (Appendix A. 3.4.) *qiyangmti* *I might be in state of doing*. Immediate Future Dubitative consists of Immediate Future indicative verb followed by a Present Active Dubitative verb *do* (22.1.). These are all dependent forms, or inter-dependent, and perhaps are a kind of conditional verb.

Late information reveals that Dubitative mood with independent verbs consists of the dubitative particle *manga* *perhaps* preceding indicative verbs. *amaa'aa hango manga qapmeaa man a* (certain) perhaps he stays (stative) *Perhaps a certain man is there. A certain man might be staying.*

Secondary verbs (section 20.) in Kapau appear to be Included verbs. Type 1. Secondary verbs occur in noun clauses, which with clitics, where necessary, may function as Subject (20.3.1.), Object (20.3.2.), Indirect Object (20.3.2.) and Location (20.3.3.). In Section 20.4. a retranslation of the last example will show the possible included sense.

aankina namaa qapa anuwa aata namaa qu'wa
yesterday getting I come (included) now again getting I go (active)

That which I brought yesterday, now I am taking away again. Group one secondary verbs have the same form as the obvitative verbs (Present Active, Complete, Durative, Stative 20.1.). There are no Immediate Future

secondary verbs. The *ti* tense verbs are the same as indicative verbs without the particle *ti* (20.1.2.). The following forms also are the same as the obviative mood less *heaanqa*. Future secondary verb *weaapmqa* *I who will come down*. Immediate Past secondary *noeaapatmnga* *I, who came down*.

The status of Secondary verbs type 2 is not as clear as type 1. The description and examples given in Oates' Section 21. suggest that these are a kind of tertiary verb, see below.

Tertiary verbs (dependent, but not included) followed by another clause which has the same subject, distinguish four kinds of action. Successive Action has two varieties, (a), occurring with a motion primary verb it has no person distinctions, *na-* (tertiary), stem and *-ma after* (17.3.1.); and (b), occurring with non-motion primary verbs, except Stative, *na-* (tertiary), stem and (m) 2 series subject suffixes (17.3.3.). *n-oeaap-m* (tertiary)-come down-I *After I come down I* Simultaneous Action also has (a) occurring with motion primary verbs, *na-* (tertiary), stem and *-a while* (17.4.1.), and (b) occurring with non motion primary verbs where either tertiary or primary verbs are stative. This form is exactly the same as Successive Action (b). Processive Action, a kind of simultaneous action consists of *na-* (tertiary), stem, *-at* (processive or durative) and (m) 2 series subject suffixes. *pane'a na-t-at-aa qapmeaango* talk (tertiary)-speak-(processive)-we we are sitting *We are sitting talking*. All of these three kinds of action assume the tense-aspect of the primary verb. The fourth kind Continuous Action Having Terminated (17.6.) distinguishes future and non-future tenses in either active or stative aspects. Active aspect occurs with morpheme *-i* (active) following the stem and stative aspect with morpheme *-ang* (stative). Future tenses occur with *-tiyaa* (future) and (mao) series subject suffixes and non-future tenses occur with *-naa* (non-future) and (n) series subject suffixes. The general structure of these verbs is *na-* (tertiary), stem, aspect suffixes, subject-person suffixes and tense suffixes.

First person singular forms are

	Future	Non-future
Active	<i>n-i-'i-m-tiyaa</i>	<i>n-i-'y-a-'aa</i>
Stative	<i>n-iy-ang-m-tiyaa</i>	<i>n-iy-ang-a-'naa</i>

Repetitive Consecutive Action (17.7.) is more appropriate as a verb phrase, perhaps Repetitive Aspect.

Different Subject Tertiary verbs (Section 18.) distinguish three aspects, active, stative and durative. They distinguish basically future

and non-future, though non-future conditional forms do not appear to pattern regularly (called Present Tense by Oates).

Future forms have the structure optional *na-* (immediacy), stem, aspect suffixes, tense suffix, *mao* subject person suffixes and dependent suffixes. Aspect suffixes are *-aa'* (active), *-at* (stative) and *-ato* (durative). The future suffix is *-aang*, and dependent suffixes are *-ta* *after* (general), *-tnaa* *when* (time) and *-ti* *if* (conditional). The time dependent morpheme also occurs with *-inaa* *when*. The first person singular Different Subject Successive forms are:

Active	y-aa'-aang-m-ta	<i>after I do</i>
Stative	y-at-aang-m-ta	<i>after I am doing</i>
Durative	y-ato-aang-m-ta	<i>after I continually do</i>

Present forms consist of an optional *na-* (immediacy), stem, present aspect suffixes, (*mao*) subject person suffixes and conditional-successive suffix. Present aspect suffixes are *-'* (active), *-ang* (stative) and *-atong* (durative). Resemblances to primary present tenses are obvious. The three tertiary present forms in first person singular are:

Active	y-'-m-ti	<i>if I do</i>
Stative	y-ang-m-ti	<i>if I am doing</i>
Durative	y-atong-m-ti	<i>if I continually do</i>

The Past forms fill in the non-future chart, (18.1.2.), i.e. Successive and Time-successive. They consist of an optional *na-* immediacy prefix, stem, aspect suffixes as for future, past dependency suffixes and (n) 2 series suffixes with Successive and (a) 1 series with Time-successive. Past dependency suffixes are *-aan* (past successive) and *-aa'n* (past time-successive).

First person singular forms are

Successive

Active	y-aa'-aan-a	<i>after I did</i>
Stative	y-at-aan-a	<i>after I was doing</i>
Durative	y-ato-aan-a	<i>after I continually did</i>

Time Successive

Active	y-aa'-aa'n-a	<i>when I did</i>
Stative	y-at-aa'n-a	<i>when I was doing</i>
Durative	y-ato-aa'n-a	<i>when I continually did</i>

In summar the author must re-iterate Oates' and say that more work needs to be done. In particular after more work on morphophonemics the analysis will be clearer.

2.4. Menya

The second largest number of people in the Angan Family speak the Menya language, 12,300 speakers. They live in many of the valleys of the Tauri River and its tributaries surrounding the Sub-district Centre of Menyamya. One group has crossed the Spreader Divide and settled at Akwangi on a tributary of the Langimar River. When the Administration came the Menya were expanding and probably would have won more ground.

Mr and Mrs Len Chipping of the Summer Institute of Linguistics are just beginning field work in the language. The information here is gleaned from the Lutheran Mission Menyamya (apparently the work of M.V. Jordan). It is unfortunate that other notes from Rev. Jordan are not available, as he has done extensive work.

Little is known of the dialect situation. Jordan recognised three dialects corresponding to the major 'clans', Nkwatiqa, mainly East of Menyamya, Tipatiqa probably west and north-west as the name agrees with a Baruya name for this area and Tineiviqa probably in the south.

2.41. Phonology

This presentation begins with M.V. Jordan (1958, unpublished), but is modified by later word lists which show extensive changes. The 13 consonants are p, t, k, q, m, n, ng, v, z, s, h, w, y. The seven vowels are i, ɪ, u, e, a, o and aa.

The stops are voiceless word initially, but tend to be voiced following nasals. The backed velar stop tends to become a voiced velar fricative between vowels. Jordan says the stops can be produced with either egressive pharynx or lung air. A complex of voiceless velar stop releasing to schwa (ɪ) and returning to a glottal stop is an interesting sub-member of q. Glottal stop is not phonemic in Menya.

The nasals are voiceless when contiguous to h.

The phoneme v is bilabial with inverted lower lip.

The phoneme z has a fricative y allophone which fluctuates word initially with non fricative y, except before u when a voiceless grooved alveopalatal fricative [ʃ] occurs. Word medially y and fricative y contrast.

The phoneme h almost always occurs word initially. It is always voiceless, but takes the quality of a following v, w, or a nasal.

The phoneme w when followed by y fluctuates freely with a medial voiced or initial voiceless bilabial fricative. The most recent analysis of w is unknown.

Syllabic nasals and syllabic *v* occur both word initially and medially. They have been interpreted as schwa plus nasal or *v*.

The vowel *i* is in free fluctuation with [ɪ] especially when unstressed or before nasals. The vowel *ɪ* has a higher sub-member in free fluctuation between stops. The vowel *u* fluctuates freely with an open variant. The vowel *e* tends to be long, and fluctuates with a low variant. The vowel *a* occurs in free fluctuation with a low back rounded vocoid between *w* and nasals.

All vowels occur word medially and finally. The vowel *ɪ* does not occur word initially, except as interpreted before syllabics. Except for *ɪ* all vowels occur in clusters preceding *i*. Only the following clusters occur with *u*, *uu*, *eu*, *au*, *ou* and *aau*. Other clusters are *ea*, *eo*, *aaa*, *ae*, *oe*, *oa*.

All consonants, though *h* rarely, occur medially. The status of *v* is in doubt, but it appears that all consonants except *v* and *ng* occur word initially. Only *m* and *n* occur word finally. Combinations where *h* is initial or *w* is the second consonant occur word initially, although no instances of *nw* have been recorded. The combinations written *h* consonant could be re-interpreted as consonant *h*. Medially many combinations occur. Syllable finally only *m*, *n*, *ng* and *v* occur, these may be followed by any consonant or consonant plus *w*.

There appear to be three phonetic levels of pitch and two phonemic levels.

2.42. Grammar

This author suggests that the *-i* clitic (called a Particularizing Clitic by Jordan) is a bound indicative equative morpheme and equivalent to Kapau *ti*. Jordan identifies *-i* as *it is* (Grammar Notes, unpublished). *Menya* Equational Clauses would then consist of a Subject and Predicate function. Occurring in Subject function are modified noun phrases, appositional noun phrases and pronouns. Presumably other phrases also occur. The only equative verb form given in bound *-i* (indicative). This and other mood clitics or words occur in Predicate function in Equational Clauses. It appears that *-nsi* is the indicative variant that occurs with pronouns. *nyi-nsi* I-be *It is I*.

The Subject Personal Pronouns are

	first person	second person	third person
singular	nyi	si	ki
dual	ye	qai	qai (?)
plural	ne	he	qui

Possessor Pronouns are

	first person	second person	third person
singular	nqɪ	tɪqa	kiqa
dual	yeqɪ	qayɪqa	qayɪqa (?)
plural	neqɪ	heqɪ	quwɪqa

The pronouns marked (?) are suggested forms from other sets, or languages.

As in Kapau some nouns may be attributive to other nouns. Jordan recognises two kinds, where the second noun modified the first and vice versa. *zi kaawoka* tree species name *a Kawoka tree*. Note also *zi kaawoka yangɪ* tree *kawoka* trunk *a trunk of a Kawoka tree*. The other kind is exemplified by *yaqweqɪ aanga* pig house *a pig house*.

A collective Noun phrase has two nouns which occur together to indicate a category of items similar to but beyond the items themselves. *zi yuqwaakɪ* arrow bow, probably meaning *weapons*. It is not a co-ordinate idea *arrows and bows*. Adjectives can modify all of these noun phrases or single nouns. Demonstratives usually occur following any adjective. Demonstrative roots are *ta this* and *i that*. *amaaqa naqa ankwunanqi ta* man big good this *this good big man*. Another demonstrative root is *fɪ some one, another* (indefinite). A possessor phrase consists of an initial Possessor function with various possessive pronouns followed by a Possessed function with noun phrases.

Personalizing Clitics are

Masculine

-wu-n-si	-wu-k-i	-w-e
-wu-ye-yi	-wu-qwaanqw-i	-wu-qwaaqw-i
-wu-ne-yi	-w-en-si	-w-aa-i

Feminine

-i-n-si	-i-k-i	-i
-ava-ye-yi	-av-aanqw-i	-av-aaqw-i
-ava-ne-yi	-av-en-si	-av-aa-i

The suggested morphemes in the above are -wu or w masculine, -i singular and -ava non-singular feminine, -yi or -si or -i indicative equative clitic and the remainder of the complex are person-number morphemes.

Relationship nouns (referential) consist of a possessive prefix, *tɪ- your* is the only one given, the stem and finally appropriate clitics; *tɪ-ni-qwo* your-father-he *your father*. Third person singular morphemes are -qwo or -o (masculine) and -ai or -i (feminine). Compare with the personalizing clitics.

Jordan reports that the verb stem is either active or stative depending on the affixes that occur with it. Some stems do not occur with stative affixes and perhaps also some stems do not occur with active affixes.

The only mood given is Indicative which is marked by prefix *a-* preceding a consonant or is unmarked before a vowel. However, Jordan also mentions Indicative mood suffixes. Jordan does not give the indirect object prefixes but it should be safe to assume they immediately precede the root.

Near future verbs consist of indicative prefix *a-*, stem, near future subject suffixes and near future tense suffix *-in*. It covers time up to twelve hours ahead. *a-t-im* (indicative)-speak-I (near future) *I will talk soon*. This basic form is also Factual or Punctiliar aspect.

Future verbs cover time beyond twelve hours ahead and consist of *a-* prefix, stem, near future subject suffixes, near future suffix *-in*, the verb stem *i do*, and near past subject suffixes (Compare Kapau Intention verbs).

a-t-im-in-i-qe (indicative)-speak-I-(near future)-do-I(near past) *I will speak*. The indicative prefix *a-* is optional with the future tenses.

Present verbs, factual aspect, consist of prefix *a-*, stem, active suffix *-iq*, and present subject suffixes *a-t-iq-a* (indicative)-speak-(active)-I *I speak*. Second person singular is irregular *a-t-in* (indicative)-speak-you (present) *you speak*.

Near Past verbs, factual aspect, refer to time as far back as yesterday morning and consist of *a-* indicative prefix, stem, active suffix *-iq* and near past subject suffixes *a-t-iq-aqe* (indicative)-speak-(active)-I(near past) *I spoke*. Second person singular does not occur with morpheme *-iq*. The final vowel in this tense could be the (equative) indicative clitic *-e* or *-i*.

Past verbs, factual aspect, cover any time before yesterday and are used for narrative past. They consist of indicative prefix *a-* stem, past suffix *-ik*, active suffix *-iq*, and near past subject suffixes. *a-t-ik-iq-age* (indicative)-speak-(past)-(active)-I *I spoke*.

Remote Past tense emphasises the remoteness of an action. In factual aspect these verbs consist of *a-* prefix, stem, *-aang* (remote past) and near past subject suffixes. Following *ng* the vowels *i*, *a* and *o* are lost. Active aspect is unmarked with this tense unless *-ng* should prove to be a variant of it. *a-t-aan-qe* (indicative)-speak-(remote past)-I *I spoke long ago*.

Present Repetitive describes the duration or repetition of an action. Jordan describes Repetitive as a 'state of doing', while stative is a

'state of being'. This verb consists of a- prefix, stem, -at (durative), -iq (active), -ang (repetitive) and present subject suffixes where -va he replaces -i he.

a-t-at-iq-ang-a (indicative)-speak-(durative)-(active)-(repetitive)-I *I am speaking*. a-t-at-iq-a-va (indicative)-speak-(durative)-(active)-(repetitive)-he *He is speaking*. (Note that the present author has reversed meanings of -at and -ang.)

Near Future Repetitive consists of a- prefix, stem, repetitive suffix -iqa, near future subject suffixes and near future tense suffix -in. The subject suffixes with vowels other than i occur with -iqw (repetitive).

a-t-iqa-m (indicative)-speak-(repetitive)-I(near future) *I will keep on talking*. a-t-iqw-a-n (indicative)-speak-(repetitive)-he-(near future) *He will keep on talking*.

Future Repetitive parallels the Future Factual but occurs with -iqa or -iqw (repetitive). a-t-iqa-m-in-i-qe (indicative)-speak-(repetitive)-I-(near future)-do-I (past) *I will keep on talking*.

These are the only verbs that Jordan illustrates, although he mentions other aspects. The Active aspect is well illustrated; the Repetitive is discussed for 2 or 3 verbs, where Jordan reports that in the past tenses Repetitive may correspond to Habitative (i.e. for recurrent actions). Stative aspect refers to a state of being. Jordan mentions other aspects, but these may be really voice categories. Reflexive voice may occur as Factual, Repetitive and Stative. Benefactive, in Factual or Repetitive forms occur with 'object prefixes' showing the person benefitted. Causative occurs as a suffix and Causative voice has Factual and Repetitive forms. Causative Stative has not yet been observed. Jordan calls one form Passive, describing it occurring with 'object prefixes' which refer to the person of the subject, rather than the object, and the subject suffixes are only third person singular. It occurs in Factual, Repetitive and Stative aspects and Reflexive voice. From this description, it is the form of English expressions such as 'I am hungry' which in Menya and other Angan languages is actually 'Hunger does to me', or similarly 'Pain pains me'. Completive is also a suffix which appears to occur in all tenses and with most aspects and voices.

Counting is a simple one, two, two plus one, two plus two, two plus two plus one, and 'two hands' for ten. One and two, by themselves consist of hi some plus gender and number morphemes. The phrases are based on the demonstrative root ta *this*. Menya 'a hand' may also be used for five.

2.5. Yagwoia

The 6,600 speakers of Yagwoia are administered from Menyamya, Morobe District. Some of them live west of the Kratke Range on a tributary of the Yaiga which flows into the Vailala River. The main population lives in the valley immediately west of Menyamya. Further south is another group over a divide and north of the main Menya area live another 1,180 people. Capell (1962) calls the northern group Yeghuye, evidently after Fischer (1968) who calls them Jeghuje (=Yequya). The Baruya call them Yovya and this author recorded Yaguya. The name Yagwoia is apparently derived from the river (Yagwoi or Iakwoi) west of Menyamya, but is similar to Yaguya.

2.51. Phonology

The only paper available on Yagwoia phonology is by R. Weier and M. Grieger (1960, unpublished). The analysis has been revised since, but the latest findings were not available.

The phonemes consist of the 13 consonants, p, t, k, q, glottal stop, m, n, ng, l, s, w, y, h, and seven vowels i, ɨ, u, e, a, o, and aa.

The stops are voiceless fluctuating to voiceless aspirated word initially and fluctuating to voiced stops after nasals.

The velar nasal is rarer in this language than in other Angan languages.

A single phoneme h word initially fluctuates with ^{*}hy. A voiceless velar fricative variant occurs word medially. Word initially before nasals it becomes a voiceless nasal.

The affricate phoneme s [tʃ] is voiceless word initially where it fluctuates with [ts], fluctuates with a voiced affricate following nasals, and fluctuates with [s] between vowels.

The phoneme w seems to be close phonetically to a bilabial v, preceding y, otherwise word initially and word medially after vowels or consonants it is rounded.

Syllabic nasals and laterals occur word initially and medially. They have been interpreted as schwa ɨ plus nasal or lateral.

The vowel i has a high variant word finally and between stops and vowels, and a low variant between stops, elsewhere the two variants fluctuate freely. Between stops so e speakers centralise the phoneme to [ɨ].

The vowel ɨ has a basic low variant after w and a high variant before double nasals and word finally after y, elsewhere they fluctuate freely.

The vowel a has a back rounded variant contiguous to w or a cluster containing w. There may also be a front variant (short [ɛ]) contiguous

to y; from final notes in the phoneme paper.

The vowel e which may be basically long could have a variant [æ]. The vowels i and a do not occur word initially, except i by interpretation. The vowels e and aa do not occur word finally. All the vowels occur elsewhere. Clusters of two vowels occur, the ones gleaned were ea, eaa, ai and au and perhaps aau, ei, iaa, ua. Vowel clusters appear to occur in all positions in the word.

Word medially all consonants occur. Word finally only glottal stop occurs. Word initially glottal stop is the only consonant that does not occur. Clusters of two consonants occur word initially and clusters of three medially. The examples gleaned were nkw, lkw and mny for three consonants. For consonant clusters of two the following were noted, glottal stop followed by m, n, l or w, consonant m followed by p, n, l or s, consonant n followed by k or s, the consonant l followed by t, k, m, n, s, w or y. Other combinations are h followed by m, n, w or y, the consonant p followed by l or y; the consonant k followed by m, l, w or y, and the consonant q followed by w. Initial clusters are kw, hw, qw, hy, hm, hn and perhaps others not occurring in the small sample of data.

2.52. Grammar

No grammatical details are available, but some verb stems appear to occur with qa- prefix see the words *sit*, *give*, *come* and *do* and the verb *die* appears to occur with na- (compare Kapau). The imperative prefix seems to be hu- in hutawa *cut it*. Third person singular for the present tense varies from -ana to -aatana and perhaps -lana.

The verb stem taq (or taqo) *stand* occurs in a partial paradigm:

taqo-na	stand-he	<i>he stands</i>
taqo-ngla	stand-they 2	<i>they two stand</i>
taqo-ngawa	stand-they	<i>they stand</i>

In past tense a phrase occurred, ni-w-yi i-sa-qa (prefix)-go-(descriptivizer) do-(past)-he *he went*. Future was ni-w-yi i-a-te-qa (prefix)-go-(descriptivizer) do-he-(future)-is *he will go*.

Counting parallels the Menya forms for *one* and *two*, which appear to be based on hi *some*. *Three* is two plus one with the same words. *Four* is two plus two and occurs with another root, probably demonstrative *this*. *Five* is *a hand* and *ten* appear to be *two hands*, using two words.

The Personal Pronouns are

	first person	second person	third person
singular	nka	sika	(heqwa)
dual	nankwali	qailqali	(heqwalaqwu)
plural	nenkwa	helka	(heqwalo)

The third person forms are based on the demonstrative *he that* and are demonstrative pronouns. The other dual forms are probably the personal pronouns with gender or other morphemes.

2.6. Baruya

The Baruya live completely within the Eastern Highlands District on the ridges and in the valleys surrounding Wonenara and Marawaka, and in the Wugamwa Census Division. Within the Baruya language the largest group which calls itself Baruya is the result of intermarriage of Yagwoia refugees with the Aanja group. The Baruya group live south of Wonenara and around Marawaka. The same dialect is also spoken by the Aanja group and with some changes by the Usirampia group south of Marawaka; a total of 3,100 for this dialect. The Wantakia, Dembulia and Wenavi live in the Wugamwa Valley and are a diverse dialect of 1,340 speakers. Two smaller groups Gulisa and Yuwarinaasa live to the north of Wonenara and form another dialect linguistically midway between the Baruya and Wantakia. There are 333 speakers in this dialect. Total speakers of the language are 4,770.

2.61. Phonology

The following material is from J. Lloyd and A. Healey (1970).

The 14 consonants are p, t, k, ' (glottal stop), b, d, g, m, n, ng, r, l, w and y and the seven vowels are i, ɪ, u, e, a, o and aa.

The voiceless stops are voiceless and fortis word initially or medially following glottal stop and they are often fricative elsewhere. The t is a dental stop and k is usually a backed velar.

Glottal stop becomes an unreleased stop at the same point of articulation as a following consonant. It remains glottal word finally or before the semi-vowels y and w. The only instance of glottal occurring between vowels is in one man's name.

The voiced stops are always prenasalized. The d is dental and g is usually a backed velar.

The alveolar flap is [ɾ] before i or y and [ɾʰ] elsewhere.

The phoneme y is [ʒ] following initial t or medial $'t$ and is [ʒ] following d . Between vowels ty becomes [ʒ] and dy becomes [ndʒ] or [nʒ]. In this paper dy has been symbolized j , initial ty as s and medial ty as z . Medial p has been symbolized as v , $'p$ as p ; medial k as q and $'k$ as k ; medial t does not occur in the paper.

The phoneme n is interdental following i , elsewhere it is dental.

The vowel phonemes i and u are slightly long. Between two semi-vowels w , the vowel i is rounded and between two semi-vowels y , the vowel u is unrounded.

The most common vowels i and a are short and have many allophones. The general environment and resulting variants are: i is fronted to [ɪ] contiguous to y and backed to [u] contiguous to w ; a is fronted to [ɛ] contiguous to y and backed to [ɔ] contiguous to w . For a proper treatment please see Lloyd and Healey 1970.

The inherently long vowels o and aa do not vary greatly. The long vowel e before velars is phonetically [ɛʌ]. The vowels i and o do not occur word initially. All vowels, except u , occur word finally. All vowels occur word medially. The clusters are aai , ai , ei , oi , ui and following w the additional clusters iaa and ia . These are complex syllable nuclei, i being non-syllabic. Since the phoneme paper was written, one cluster of three vowels, following w has been found iai . Baruya speakers insist this is one syllable, only a being syllabic so that the word *nigwiai a coin, a cowrie shell* has only two syllables.

The consonants glottal stop, r and ng do not occur word initially. Glottal stop is the only consonant to occur word finally. All consonants occur word medially. All consonants occur word medially before y , all except glottal stop, r and ng occur word initially before y . Except for dental consonants t , d , n , r and l all consonants occur word initially and medially before w , except consonants which never occur word initially. Word medially glottal stop occurs before p , t , k , b , d , g and m , n singly or these consonants plus allowable semi-vowels. Word medially m and n occur before prenasalized homorganic stops and nasals, and ng occurs before g . Word medial glottal stop, m , n and ng before other consonants are syllable final.

Pitch accent, incorporating high pitch and stress, is phonemic, but only occurs on one of the last two syllables of the stem of a word. The long vowels e , o and aa occur with pitch glides. When accented the pitch glides down from high, when unaccented the low pitch glides lower. Perturbation is progressive.

The Wantakia dialect has no voiced stops b , d , g . Medially clusters

of mp, nt and ngk occur, paralleling Baruya mb, nd and ngg.

Computerized text gave a phoneme count of 20% of text for a, 12% for i and 7% for n and y.

2.62. Grammar

Baruya Equational Clauses consist of a Subject and a Predicate function. If the Subject function is not manifested by locatives or temporals then a Location function and a Time function optionally occur. Occurring in Subject function are also Modified Phrases of several kinds, Possessive Phrases, Appositional Phrases, Co-ordinate Phrases, Pronouns and Included Clauses. For further information see Lloyd (1969). Occurring with the phrases, pronouns and included clauses are various clitics which are function markers (case) but except for pronouns also show gender, person and number sometimes in portmanteau form. This makes analysis difficult and resulted in the poor choice of name for Clitic slot in my earlier paper. The use of clitics with phrases is an economical step from a probable older stage case system. (See notes on the Angaataha grammar, §2.92, for a possible intermediate stage.) The Baruya case morphemes are Subject/Actor (basic clitic forms), Object/Indirect Object -yino, Accompaniment/Instrument -zino, Location in Space and Logic -ya -bano, Location in Space (direction) -ya-wino, Time -ya-gaako, Possession yi-re, Reference (-yi)-nana. Benefaction, (Lloyd 1969), has proved to be a nominalized form of the Reference.

The Subject forms of gender clitics for masculine and feminine are

Masculine

-i-nyo	-i-gino	-lo
-i-naalo	-raai-qilo	-raalo
-i-naawo	-iqilo/-raaviqilo	-raawo

Feminine

-i-nyo	-i-gino	-wo
-i-naalo	-waa-i-qilo	-waalo
-i-naawo	-ng-iqilo	-ngo

Occurring in Predicate function in Equational clauses are the following equative verbs. Indicative is a bound form (clitic) -yiro, Negative is miko, Interrogative is daako, Question is an equative form of question words which end in -ko, Dubitative is d+ngako or d+qako with some speakers. Negative Interrogative is midaako and Negative Dubitative is mid+ngako. Question mood is illustrated by a'mwe be-wa-la-ko person what-(masculine)-

he-be *What man is that?* Interrogative mood is illustrated by a'mwe-i daako person-he (interrogative) *Is it a man?*

The Subject Personal Pronouns are

	first person	second person	third person
singular	nĩmĩno	gĩmĩno	gamĩno
dual	naarĩmĩno	kĩrĩmĩno	kĩrĩmĩno
plural	nemĩno	sarĩmĩno	kumĩno

Non-equational clauses are very similar to Kapau. A Nature clause occurs with a special class of verbs which only occur in third person singular, whatever the number of the special class of nouns in Subject function. yĩta-waai waay-ĩko tree-two (feminine) stand-he (stative) *Two trees are standing.*

Stems in Baruya are simple or complex. Complex stems occur frequently and may consist of four or five roots. There is a general division of verb roots into active and stative, but this is not rigid. Indirect Object prefixes occur with certain roots or roots plus y (benefactive). These are:

nyĩ-	gĩ-	wĩ-
neqĩ-	yĩqĩ-	wĩ-
ne-	yĩqĩ-	wĩ-

Voice suffixes follow verb roots and consist of -n (reflexive) -q (causative) and -y (benefactive). The last occurs in the form dĩ-nyĩ-ram-y-ĩ(imperative)-me-hit-(benefactive)-you. *Kill (the possum) for me!*

There are independent, dependent, subjunctive and included verbs. The independent verbs usually occur sentence finally. The Independent verbs show mood, tense and subject. Sometimes instead of tense aspect occurs. The formation of mood divides all the independent verbs into future and non-future. The non-future group will be discussed first.

The Complete Verb consists of stem, tense suffixes and complete subject person suffixes. The tense Suffix is -iw or -mw (complete) depending on the final consonant of the stem. The subject suffixes are listed in Appendix D.

y-iw-ano do-(complete)-I *I have finished work.*

The Incomplete verb consists of stem, tense suffix, and incomplete subject-person suffixes. The tense suffix is ivan-ig or -man-ig and follows the same rules as for the complete suffix.

y-ivan-ig-eno do-(incomplete)-(incomplete)-I *I am working.* The final part of the tense, which may be the stative morpheme, does not occur with

he. y-ivan-iko do-(incomplete)-he *He is working.*

The Stative verb usually occurs with stative roots like warĩ *lie* and mwaalĩ *stay or sit*. It consists of stem, tense suffix +g and incomplete subject person suffixes. y-ig-eno do-(stative)-I. *I am doing/I am in state of doing.* y-iko do-he *He is doing.*

Nocturnal Past verb is a true tense and refers to the previous late afternoon and night. It consists of stem, tense suffix -yawaaĩq and incomplete subject-person suffixes.

y-awaaĩq-eno do-(nocturnal)-I *I did it last night.*

y-awaal-iko do-(nocturnal)-he *He did it last night.*

Near Past verb covers the time from yesterday to two or three days ago. It occurs with the tense suffix -iwa'd or -mwa'd (near past) and the incomplete subject person suffixes except -aawo occurs instead of -awo *you all, they*. y-iwa'd-eno do-(near past)-I *I did it recently.* iwa'diko *He did it recently.*

Regular Past verb covers the time from three days to a month or more. It occurs with tense suffix -ag (past) and past subject-person suffixes. Some persons have an alternate form without -ag, but *he* never occurs with -ag (past) y-ag-eno do-(past)-I *I did it.* y-eno do-I(past) *I did it.* y-ako do-he(past) *He did it.*

Far Past verb refers to time earlier than the time of the regular past. It is not considered profitable to divide tense from subject suffixes so the structure is stem and far past-subject-person suffixes.

y-aano do-I(far past) *I did it long ago.*

A rarer tense may be called a Previous Tense verb. This occurs when an action is forgotten until the next action is spoken, and so the speaker uses this verb to refer to the time before the last action spoken. It consists of stem, previous tense suffix -yawalyaad and near past subject person suffixes.

y-awalyaad-eno do-(previous)-I *I had done it already.* This verb usually occurs as an included form.

The indicative mood for all the preceding verbs is as given, y-iw-ano do-(complete)-I *I have finished working.* The negative consists of initial prefix ma- and suffix -y preceding tense suffixes m-y-iw-ano (negative)-do-(complete)-I *I have not finished working.* ma-n-y-iw-ano (negative)-eat-(negative)-(complete)-I *I have not finished eating.* Question mood consists of a question word preceding the indicative form baarĩ yiwano *What have I done?* The Interrogative occurs with prefix da- and the Dubitative with prefix daqa-. da-n-iw-ano (interrogative)-eat-(complete)-I *Have I finished eating?* daqa-n-iw-ano (dubitative)-eat-(complete)-I *I might have*

finished eating. Negative Interrogative consists of a compound verb with negative prefix *ma-*, verb stem, suffix *-yi*, interrogative affix *d-* plus the appropriate tense of the verb *do*.

ma-n-yi-d-y-iw-ako (negative)-eat-(negative)-(interrogative)-do- (complete)-he *Has he not finished eating?* The Negative Dubitative is the same except that *jiq-* (dubitative) occurs instead of *d-* (interrogative). *ma-n-yi-jiq-y-iw-ako* He might have not finished eating.

Future tenses are Desiderative Tense and Future Tense. The Desiderative means either *I want (desire) to do* or *I will soon do*. It consists of stem and desiderative subject person suffixes, see Appendix D. Note that the usual seven contrasts in subject have increased to eight here. The second person desiderative forms occur with *d+*- (imperative).

n-imo eat-I(desiderative) *Let me eat, I want to eat.*

d+-na-no (imperative)-eat-you *You eat.*

The Future Tense consists of the Desiderative form plus the future suffix *-de* and a variant of the equative indicative clitic, *-ro*. Morphophonemics makes the connection hard to see.

n-ipi'-de-ro eat-they (desiderative)-(future)-be *They will eat.*

The negative consists of a negative auxiliary *ma-stem-yi(na)* preceding the positive forms of *do*.

ma-n-yi y-ima (negative)-eat-(negative) *do-I(desiderative)* *I do not want to eat.* *manyi yipi'dero* not eating they will do *They will not eat.* Interrogative consists of a desiderative verb, the interrogative morpheme *d* and the same subject form of the verb *do* in Complete Tense.

n-ipi'-j-iw-aawo eat-they (desiderative)-(question) *do-complete-they.* *Will they eat?* Question mood consists of a question word before a future interrogative form. *baari nipi'jiwaawo* *What will they eat?* Dubitative is much the same as the Interrogative, but with *jiq* (dubitative) *n-ipi'-jiq-y-iw-aawo* eat-they (desiderative)-(dubitative)-do-(complete)-they *They might eat.* The negative auxiliary occurs with Interrogative and Dubitative form of verb *do* to give Negative Interrogative and Negative Dubitative. *ma-n-yi yipi'jiwaawo* not-eat-not will they do *Won't they eat?*

The Habitual Verb describes a customary action still being practised. A customary action no longer done uses the appropriate past tense. The Habitual Verb usually occurs in an Equational clause, but also occurs with a dependent sense in an Explanatory Discourse, describing house-building, etc. It consists of stem, duration suffix *-ad* and habitual subject person suffixes.

n-ad-iviko eat-(duration)-they(habitual) *They always eat (bananas).* The Habitual Verb occurs in positive and negative forms with question

words. *ma-n-y-ad-iviko* not-eat-not-(duration)-they *They do not usually eat (bananas)*. *baari nadviko* *What do they usually eat?* *baari manyad-iviko* *What don't they eat?* The Habitual usually occurs with the substantive marker and clitics but may occur with only equative verbs. *n-ad-ivik-iro* eat-(duration)-they-be *They always eat*.

All Subjunctive verbs occur with the subjunctive subject person suffixes (see Appendix D.) The Positive Subjunctive almost always occurs as an Included clause. It consists of stem, subjunctive subject suffixes, concerning suffix *-na* and an optional indicative equative verb clitic. *n-ipi-n-ero* eat-they(subjunctive)-about-be *They should eat*. The Negative Subjunctive consists of negative prefix *ma-* occurring before the positive form. *ma-n-ipi-n-ero* not-eat-they(subjunctive)-about-be *They should not eat!* The Undesirable Subjunctive consists of *na-* (undesirable), stem, subjunctive subject suffixes and *-diko* *unreal* suffix. *na-n-ipi-diko* (undesirable)-eat-they-(unreal) *It is not good that they eat (that)*. A negative auxiliary occurs also *ma-n-yi nyipidiko* not-eat-not lest they do. *It is not good that they not eat*. The Complete Subjunctive occurs with *ka-* (complete) prefix instead of *na-* (undesirable). *ka-n-ipi-diko* (complete)-eat-they-(unreal) *They would have eaten*. A negative also occurs *manyi kyipidiko* not eating, they would have done *They would not have eaten*.

The Subjunctive has a dependent form which may occur in positive or negative, as an included clause. Its normal use is in a verb phrase which functions as the Predicate of a Contrary to Fact Condition Clause. The Dependent Subjunctive consists of optional negative *ma-*, stem, subjunctive subject suffixes and the dependent marker *-ji* (no). *n-ipi-ji* eat-they (subjunctive)-(dependent) *They should eat*. The Conditional auxiliary is *kwaji* and it follows the Subjunctive Dependent *nipiji kwaji* they should eat, if (subjunctive) *If they had eaten*.

A Dependent Desiderative also occurs. It consists of stem, dependent desiderative subject person suffixes and the dependent marker *-ji*. *n-ipi'-ji* eat-they-(dependent) *As they want to eat (I am staying cooking)*.

Regular Dependent verbs almost always occur with Independent verbs. They distinguish between future and non-future tenses, whether the relationship with a following clause is successive or simultaneous action and they usually indicate whether the subject of a following clause is the same or different.

There are three Successive Action verbs. Non-future Different Subject Successive verbs consist of *ka-* prefix (change of subject) preceding non-future Independent verbs. *ka-n-iw-aawo* (change of subject)-eat-(complete)-

they *They have eaten and...* ka-n-yaawo (change of subject)-eat-they(far past). *Long ago they ate and...*

Non-future Same Subject Successive verbs consist of stem, the shorter forms of the past tense suffix (i.e. unmarked or -ag), past tense subject suffixes, and the successive action same subject suffix -a(no). n-ev-a eat-they-(same subject successive), *They ate and they...*

The future Successive verb consists of optional change of subject prefix ka-, stem, successive future suffix -aw, dependent future subject suffixes and dependent morpheme -jɪ. ka-n-a-pɪ-jɪ (change of subject)-eat-(dependent future)-they-(dependent) *They will eat and...*

The Simultaneous Action verbs distinguish stative and active. They must have a different subject in the following clause, though they never occur with ka- prefix. Same subject simultaneous actions in English are often rendered in Baruya as compound stems, e.g. *talk-go*. The general structure of Simultaneous verbs is stem, duration suffix -ad, aspect suffixes -aaw(active) or -aw(stative), subject suffixes and dependent morpheme -jɪ. The non-future forms occur with simultaneous subject suffixes. The future forms occur with dependent future subject suffixes.

Non-Future Simultaneous Active

n-ad-aa-zɪ eat-(duration)-(active)I-(dependent) *While I ate...*

n-ad-aa-pɪ-jɪ eat-(duration)-(active)-they-(dependent) *While they ate...*

Non-future Simultaneous Stative

n-ad-a-zɪ eat-(duration)-(stative)I-(dependent) *While I was eating...*

n-ad-a-pɪ-jɪ eat-(duration)-(stative)-they-(dependent) *While they were eating...*

Future Simultaneous Active

n-ad-aa'-mu-jɪ eat-(duration)-(active)-I-(dependent) *While I will eat...*

Future Simultaneous Stative

na-ad-a'-mu-jɪ eat-(duration)-(stative)-I-(dependent) *While I will be eating...*

Negative forms of all Dependent verbs are common. With change of subject morpheme ka- the negative auxiliary occurs ma-n-yɪ k-y-iw-ano not-eat-not (change of subject)-do-(complete)-I *I have not eaten and...* With other dependent verbs the complex ma-stem-yɪ occurs ma-n-y-ad-aa'-mu-jɪ not-eat-not-(duration)-(active)-I-(dependent) *While I did not eat...* Question mood occasionally occurs and consists of a question word preceding the positive forms. baari yadapɪjɪ *While he was doing what...*

The other moods have been elicited but are very rare. They parallel the non-future independent forms.

Included clauses and hence Included verbs are very common. The Desiderate verb never occurs as an Included verb. The substantive morpheme *-ya*, (Lloyd 1969) always occurs and precedes gender and other clitics. With appropriate clitics any clause may occur in any clause level function except Predicate.

2.7. Simbari

Simbari is closely related to Baruya which it joins on the West. The 2,400 Simbari live in the lower Yaiga Valley and various of its tributaries to the north. They also live on the eastern side of the Aure River. Near the Gulf District border the Pawaia village of Tusavi stands on old Simbari land. It is reported that there is a Simbari village about 15 miles upstream from another Pawaia village called Keka. This Simbari village could be Yatwia, which is 20 miles or so from Keka.

2.71. Phonology

No phonemic analysis of Simbari was available. So the comments here are necessarily tentative.

There appear to be 14 consonants *p, t, k*, glottal stop, *b, d, g, m, n, ŋ, r, l, w, y*. There are some syllabic nasals, but these only occur word medially. Some prenasalized stops, *b, d, and g*, are cognate with other Angan voiceless stops. The prenasalized stops then are likely to be phonemes, though the syllabic nasals, which do not occur in Baruya, make this decision tentative. There are seven vowels *i, ɪ, u, e, a, o* and *aa*.

The phonetic material is much like Baruya, but *l* in Simbari is usually a lateral fricative. Simbari also has a velar lateral which is analysed as the combination *ry* which is mutually exclusive. A backed velar stop occurs in Simbari between vowels *a* and *a* or *aa* and *aa* and initially in some words before *aa*. Simbari also has intervocalic glottal stop *bi'aaɪ tomorrow, sa'ayɪ pig*. The occasional occurrence in Baruya of *pt* for normal Baruya *'t* is always *pt* in Simbari. Combinations of *l* and other consonants also occur in Simbari, noted were *pl, lk, ln, lm*. The combinations of *l* plus consonant in Simbari are *i* plus consonant in Baruya.

At this stage other features are assumed to be the same as Baruya.

The voiced and voiceless affricates *[ndʒ]* and *[tʃ]* are phonemically *dy* and *ty*, at this stage.

2.72. Grammar

Most verbs appear to be prefixed by *a-* (probably the indicative), and others by *na-*, with the same meaning. In the Present there are two endings for third person singular, and there are examples of one root *da speak* occurring with both. Perhaps one is Stative and the other is Continuous (or Complete and Continuous). These endings are *-dɪpyɪ* and *-maayɪ*. Third person suffixes with another stem are singular *-pyɪ*, dual *-kula* and plural *-kupɪ*. This suggests *-dɪ* is a morpheme and *-pyɪ* another.

Counting is the same as Baruya, with practically the same morphemes, for example: *p-wa-l-na* some-(masculine)-he-about *one*. *p-wa-raal-na* some-(masculine)-they two-about *two*. Normally the numerals are based on a demonstrative root so *four* is *a-raal a-raal* this-they two (men) this-they two (men). *Five* is *a hand*, *ten* is *two hands* with a count morpheme *-utyaa* *two hands*.

The Personal Pronouns are

	first person	second person	third person
singular	<i>niwɪ</i>	<i>giwɪ</i>	<i>gawɪ</i>
dual	<i>naawɪ</i>	<i>kiwɪ</i>	?
plural	<i>nenɔ</i>	<i>kiwɪ</i>	<i>ki</i> (?)

Some pronouns in another list end in *-no* instead of *-wɪ* and this set here occurs with *-gano* which is unrelated to Baruya but could be indicative equative, e.g. *niwɪgano* *It is I*. The form given for *they two* was *kaybwaraal* which is probably based on a demonstrative.

2.8. Ampale

The Ampale language, with 3,420 speakers, is spoken north of the main Yagwoia area along the eastern flank of the Kratke Range near Mt Piora. Most analysis has been done in the northern dialect, *Wojokeso*, which stretches from the Waffa River, near Mt Piora, to the Banir River, 960 speakers. Some material was collected from the Central dialect, *Aiwomba*, which includes the Banir River and south to the village of Umba where N. Bourne is studying the language, 1,920 speakers. *Aiwomba* is the name of a small, but important village. The southern dialect, about 540 speakers, is called *Yaponya*; only a word list of 40 words was available from this dialect.

D. West (1967) calculates that the central and northern dialects are 92% cognate. From the 40 words, central and southern dialects are 92% and northern and southern are 90% cognate.

Ampale is the name of an area along the Banir River from which the northern groups migrated. The Government at Menyamy has called the central area the Tauri Headwaters.

2.81. Phonology

The phonology is described by West and West (forthcoming). The following description follows closely their analysis.

The 16 consonants are p, t, k, h, glottal stop, v [p], z [s], z [ʃ], s [tʃ], r, m, n, ny, ng, w and y. The seven vowels are i, ɪ, u, e, ə, a and aa.

The phoneme z [ʃ] does not occur in the Aiwomba dialect and so not in examples in this paper. The voiceless glottal fricative h varies freely with a voiced fricative between vowels. It becomes a velar fricative before front vowels and it becomes a voiceless nasal before syllabic m and n. The voiceless alveopalatal affricate s is voiced after nasals. The bilabial v which varies to labio-dental with some speakers is voiceless word initially and is voiced between vowels. The flapped lateral becomes a flapped vibrant [ɾ] between vowels.

The short vowels ɪ and a have many variants somewhat the same as Baruya. The vowels i and u are slightly long and the vowels e, ə and aa are fairly long. The vowels tend to be longer when pitch-accented. Utterance final vowels tend to be voiceless or lost.

The vowels ɪ and ə do not occur word initially. In fact ə only occurs after labial consonants and rarely before vowels, though a and a has been recorded. All vowels occur medially and finally. The sequence ui does not occur, aa only rarely occurs with a, and ɪ only occurs next to other vowels by interpretation. Other than these exceptions which include ə, two vowels co-occur, but in separate syllables.

Except for ng and glottal stop all consonants occur word initially. No consonant occurs word finally. All may occur word medially. Initially clusters of two consonants occur where k, h, s or z are followed by w. Word medially, but syllable initially, glottal stop is followed by m, n, ny, w or y. The consonant m occurs before 'm and 'n, and n precedes ny. The only cluster involving ng is ngk, normally written nk. Clusters of hm and hn occur initially and medially.

Pitch-accent is phonemic and it is a complex of high tone and stress. It occurs anywhere within a phonological word, but only on one of the last two syllables of a grammatical root. Pitch perturbation is regressive.

2.82. Grammar

West and West distinguish the following clauses by external distribution and their occurrence with various mood and other clitics or words. General clauses normally occur in sentence final position. Non-equational General clauses occur with (1) mood morphemes as General Final clauses, (2) medial markers as General Medial clauses, (3) personalizing clitics as General Included clauses and (4) *-'na when* as General Marginal clauses. Equational General clauses only occur with mood morphemes and two of the medial markers. There are two Contrafactual clauses: the Result clause or Past Subjunctive occurs sentence finally with mood morphemes and Conditional Subjunctive occurs sentence medially in positive or negative forms. Dependent clauses occur in certain constructions with medial markers and in other constructions without them. A fuller treatment may be found in D. West (1970). The various verbs, moods, medial markers, etc. are discussed in the present paper.

The internal structure shows the following kinds of clauses. Ditransitive clauses occur with two optional objects, Object function and Indirect Object function, and the verb in Predicate function occurs with obligatory object person affixes. Transitive clauses occur with one optional object, either Object or Indirect Object function, but never both and the verb optionally occurs with object person affixes. One kind of Quotative clause has Indirect Object function and Quotation function, the latter instead of Object function, and the verb obligatorily occurs with object person prefixes. Intransitive clauses never occur with any object or a verb with object person affixes. Impersonal clauses occur with a subject pronoun in Goal function and certain verbal nouns in Subject function and the verb in Predicate function is only third person singular subject and occurs with obligatory object person affixes. Except for Impersonal, verbal nouns optionally occur in all these clauses in Predicate Complement function. A general verbal noun is *zaaha sleep*. An impersonal verbal noun is *misaha hunger* as in the Impersonal clause *nka misaha ni-y-aha-ha* I hunger to me-do-(complete)-he *I am hungry* (Hunger has done to me). Instrument function optionally occurs with Ditransitive and Transitive clauses, but not the others. Other functions that occur in almost any clause are Time, Location, Accompaniment, Manner, Purpose and Referent.

Equational clauses in Ampale consist of a Subject function and Predicate function. Occurring in Subject function are the same words and expressions that occur in any non-equational clause level function except Predicate and Quotation functions. Typical items are pronouns, Modified Noun

Phrases, Co-ordinate Noun Phrases, Temporal Noun Phrases and many of the preceding with various clitics (function markers). Predicate function is manifested by bound mood morphemes (clitics). These are -vaha (indicative), question word plus -ta (question), -taaha (interrogative), -'maaha (negative) and -tikenā (dubitative).

Items occurring in noun phrases are demonstratives or possessor pronouns, nouns, attributive clauses or adjectives, modifiers and numerals, and limiters. Not all these items co-occur, the usual maximum being three in one phrase. The nouns recognized by the Wests are Animate, Inanimate, Possessed Kinship, Temporal and Verbal.

The function markers are -ma *in, among, to, toward* (indirect object); -'mna *inside*; -pa *at, on*; -'nsi *with, and, of* (instrument, co-ordination, accompaniment); -'na *about, for* (referent); -'ne *for the purpose of*; -ntaa'ne *from*; and -pa'aanga or -paa'nya *like*.

Subject Personal Pronouns are

	first person	second person	third person
singular	nka	kika	kaaka
dual	nekwa	zika	zika
plural	naakwa	zekwa	haavika

The object person affixes are included in the term stem in the following outline of Ampale verbs. With class 2 verb roots, which include *put, kill* they occur immediately following the root. With other verb roots they immediately precede the root. Object person affixes are

	first person	second person	third person
singular	ni-	ki-	u-
dual	e-	ze-	u-
plural	nāa-/ne-	ze-	u-

Following the verb root a set of voice suffixes optionally occur. These are -k (causative), -n (reflexive), -hm (abilitative) and -wa'n (customary).

Current work on complex morphophonemics should clarify the structure of verbs.

Present Progressive and Present Complete consist of stem, tense-aspect suffixes and basic subject person suffixes. Present progressive suffix is -aarakw and present complete suffix is -aha. The basic subject-person suffixes are listed in Appendix E. The above verbs are indicative mood. Negative mood consists of a compound verb ma- (negative), stem, tense aspect suffixes, verb stem *do* with Present Complete affixes. ma-n-aaraku-y-ah-ana (negative)-eat-(present progressive)-do-(present complete)-I I

am not eating. ma-n-aha-y-ah-ana (negative)-eat-(present complete)-do-(present complete)-I *I have not eaten.* There is an alternative negative form, ma-stem-a'nsa plus indicative form of the verb *do mana'nsa yahana I have not eaten.* Question mood consists of a question word preceding an indicative verb. *peha yaaravaha* what he is doing *What is he doing.* Interrogative consists of prefix *ra-* (interrogative) preceding the indicative verb *riyaaravaha Is he working?* Dubitative mood occurs with *ka-* (dubitative) prefix, *kiyaaravaha Perhaps he is working.*

Regular Past, Far Past and Past Habitual also form a group. These verbs have the basic structure stem, tense, complete aspect and basic subject suffixes. Tense suffixes are *-maar* (regular past), *-ment* (far past), and *-mat* (past habitual). Probably complete aspect *-ah* occurred in all three tenses, but shortened forms have eliminated it with some persons. These basic forms are also indicative, though usually the clitic *-vaha* (indicative) also occurs. For negative the auxiliary *ma-* stem *-a'nsa* precedes an indicative verb, or *ma-* negative prefix may occur with the basic form plus *-vaha* (indicative). This latter form occurs with *-maaha* (negative) instead of *-vaha* and a positive statement results. Question mood consists of a question word preceding the indicative form. If any mood suffix occurs, it is *-ta* (question). Interrogative mood may consist of prefix *ra-* occurring with the indicative form, but more usually suffix *-taaha* (interrogative) occurs. Dubitative mood occurs with *ka-* (dubitative) prefix, but more usually dubitative suffix *-t+kena* occurs.

Near Future tense has the structure *wa-* (intention) stem, basic subject suffixes, future tense suffix and indicative mood suffix *-ha*. When a negative auxiliary precedes this form of the verb *do* a negative mood results. Other moods occur with an unknown morpheme *-nti* with *I* and *you* subjects and mood clitics such as *-maaha* (negative).

Two subjunctive verbs constitute another group. The Positive Subjunctive works as a far future tense. It consists of stem, subjunctive subject suffixes, subjunctive suffix *-ne* and mood suffixes. The Past Subjunctive consists of *na-* (unreal?), stem, abilitative suffix *-hw*, subjunctive subject suffixes, subjunctive suffix, past subjunctive suffix *-zahe* and mood suffixes. The *na-* prefix does not occur with the verb *do*. Indicative mood with the Positive Subjunctive is *-vaha* and with Past Subjunctive is *-ra*. Besides the regular suffix *-maaha* (negative) the Positive Subjunctive may occur with the negative auxiliary plus the indicative form of *do*. *mana'nsa imnevaha* not eating I will do *I will not eat.* An alternative negative for Past Subjunctive occurs when prefix *ma-* (negative) occurs with the full indicative verb. For question mood affix

-ta occurs with Positive Subjunctive and affix -ra (evidently indicative) occurs with Past Subjunctive; both constructions also occur with question words.

The remaining tenses, or aspect, do not occur as included clauses and only positive or negative forms occur. The Imperative verb occurs with imperative prefix *va-* in second person to form the Imperative and with intentive prefix *wa-* in the other persons to give a hortatory sense. The stem occurs next in the verb, then imperative subject suffixes. Negative consists of the negative auxiliary preceding an Imperative verb *do*.
mana'nsa wa-y-uma not eating (intentive)-do-I Let me not eat it.

The Undesired Subjunctive consists of stem, subjunctive subject suffixes, subjunctive suffix in the form *-na*, and indicative suffix *-ha*.
y-a-na-ha do-he-(subjunctive)-(indicative) It is not good for him to do it. The negative consists in preposing this form of the verb *do* with the negative auxiliary.

The Conditional Subjunctive consists of stem, *-ant* (unreal) suffix and the fused conditional subjunctive subject suffixes. *y-ant-i'mtentezi do-* (unreal)-if I had *If I had done it.* Negative auxiliary may precede this form (*If I had done it*).

The Future Imperative consists of the abilitative suffix occurring after the stem of an Imperative verb. In second person, however, the changes seem greater than warranted by morphophonemic changes *u-y-i'-ma* (intentive)-do-(abilitative)-I(imperative) *I will do it.*

The Negative Imperative consists of stem, abilitative suffix, prohibitive subject suffixes and indicative *-ha*. Other verb stems but *do* occur with *na-* prefix, perhaps meaning *unreal*. *i-'-me-ha do-(abilitative)-I* (prohibitive)-(indicative) *I should not do it.*

A possible stative form is being researched. It appears to have the structure of stem, stative suffix and basic subject suffixes. The stative morpheme is *-ta* or *-ra*. It is expected that this form works the same way as the present tenses.

Two phrases occur which enlarge the aspects. The Desiderative Phrase occurs with any tense of the verb *do* following a variation of the Near Future verb with the clitic *-'na concerning*. *u-y-um-ne-'na imaare* (intentive)-do-I-(future)-about I did *I wanted to do*. The Anticipation Phrase likewise occurs with any tense of the verb *do*, but following the Positive Subjunctive, perhaps with *-'na concerning* and the affixes for Past Series Dependent verbs *y-a-ne-'n-ta yaaravaha do-he-(subjunctive)-about-he(series) he is doing He is expecting to do it.*

Most of the preceding verbs and both phrases also occur with medial

markers instead of mood affixes. There are three bound forms -za *and*, ka- *but* or *though* (note this is a prefix), and -'maansi *if*. The free form is kaarahi *because*. Only the last two kaarahi and -'maansi occur with what would be Equational clauses if they had equative clitics. yaahu-hwasì-'maansi pig-you-if as in the sentence *If you are a pig (I will shoot you)*.

The co-ordinate medial marker -za only occurs with non-future General verbs and the Future Co-ordinate Dependent verbs, described with other dependent verb n-ìment-iza-za eat-(far past)-he-and *He ate long ago and...*

All general verbs and the two phrases occur with 'personalizing clitics' as included clauses. In various functions they also occur with the appropriate function markers as do Noun Phrases. The Subject function form for masculine and feminine are as follows:

	Masculine	Feminine
<i>I</i>	-hwa'ni	-i'ni
<i>you</i>	-hwasi	-ki
<i>he, she</i>	-hwa	-i
<i>we two</i>	-hwayaa'i	-vayaa'i
<i>you two</i>	-hwaahusi	-vaahusi
<i>they two</i>	-hwaa'u	-vaa'u
<i>we</i>	-hwanaa'ni	-vanaa'ni
<i>you all</i>	-hwaasi	-vaasi
<i>they</i>	-hwaa	-vaa

Some morphemes may be seen -hwa (masculine), feminine is -i (singular) and -va (plural), -'ni *I*, -si *you*, -yaa'i *we two*, -aahusi *you two*, -aa'u *they two*, -naa'ni *we*, -aasi *you all* and -aa *they*.

All general verbs and the two phrases occur with morpheme -'na *when* to make a marginal clause. wanìmaanga kinìkuhwaza-'na kika hiyaaya ntì'ma shame it eats you-when you hide where *When you are ashamed, where will you hide?*

All the basic verbs discussed to this point occur, with the appropriate mood, in sentence final position. One of these is the Past Subjunctive, which occurs in final position, but is interdependent with Conditional Subjunctive which only occurs sentence medially.

There is a set of verbs which only occur sentence medially to make Series, Sequence or Simultaneous Sentences. These Dependent verbs also occur with the medial markers, but see below. All forms occur with an optional focus prefix na-. If present it indicates the action is highlighted, if absent that the actor is highlighted. Only future and non-future are distinguished in tense. A different subject Sequence verb

occurs with relationship suffix -aahanink followed by different subject non-future subject suffixes or followed by dependent future subject suffixes. Future na-n-aahanink-u'ma (focus)-eat-(different subject sequence)-I (future) *after I will eat*. Non-future na-n-aahanink-a (focus)-eat-different subject sequence)-I (non-future) *After I ate...* A different subject Simultaneous verb occurs with relationship suffix -antaanink followed by the tense-subject subject suffixes as for the preceding verb. The partial -nink could indicate a change of subject. na-n-antaanink-u'ma (focus)-eat-(different subject simultaneous)-I(future), *While I will eat...* na-n-antaanink-a *While I ate...*

There are two other dependent verbs but these do not occur with an overt relationship suffix. The Series Dependent verb is followed by a clause with the same subject. It is considered that the relationship can be either sequence or simultaneous. na-n-u'ma (focus)-eat-I(future) *I will eat and I...* na-n-ansi (focus)-eat-I(non-future same subject) *I ate and I...* The partial -ant may be a morpheme, -ant plus -yi becoming -ansi. See Appendix E for subject suffixes.

The Future Co-ordinate Dependent verb is the only dependent verb to occur with -za and, see medial markers. The subject of a following clause can be same or different. The structure of a Future Co-ordinate verb is stem and future co-ordinate subject suffixes. n-ime-za eat-I(future co-ordinate)-and *I will eat and...* The prefix ka- but also occurs with the Future Co-ordinate verb plus -za and. ka-n-ime-za but-eat-I (future co-ordinate)-and *But I will eat and...* or *I will eat but...*

2.9. Angaataha

The most diverse language in the family is Angaataha. This language once covered a big area including the Kapau, Kareeba and Indiwí valleys (information from Tom Palmer). The Kapau drove them out and only 1000 remain, mainly in the Langimar Valley, but the village of Manki (130 people), near the Watut River, is also Angaataha. The people have been named Langimar, after the river, but it is not a local word. The people call the language Angaataha and themselves Angaatiya (-iya they).

No dialect differences are known.

2.91. Phonology

This outline of Angaataha phonology follows Huisman and Huisman (in preparation).

The 11 consonants are p, t, k, glottal stop, r, s, m, n, ng, w, y.

Glottal stop is symbolised h in the practical orthography. The seven vowels are i, ɨ, u, e, a, o and aa. The four tonemes are high, low, high-low glide and a low-high glide.

The stops p, t, k are in free fluctuation with the corresponding voiced stop following nasals.

The alveolar flap r freely fluctuates with a lateral flap. The grooved fricative s freely fluctuates with the affricate [ts], and a voiced affricate [dz] occurs following nasals.

The vowel ɨ is usually very short, a tends to be a little longer, i, u and e are usually medium in length, o varies from medium to long, and aa is always long.

The vowel a freely fluctuates with a higher variant next to s, y, t or r.

The vowel ɨ varies to [ɪ] next to s, y or 'i, varies to [e] before 'e when not following s or y, and varies to [o] before 'o when not following r.

Stress is predictable and occurs in conjunction with a high or a glide toneme. Any toneme occurs on any syllable of a word.

All vowels occur word medially. Except for ɨ, all occur word initially. Except for u and aa, all vowels occur word finally. Within the syllable only ai and au clusters occur. In separate syllables o occurs before a, aa, e or the cluster ai, and i occurs before the cluster ai.

Glottal stop and r only occur between vowels. Initially ng only occurs before k.

Word initial nasals before stops and s are syllabic. No consonant occurs word finally, though m, n, ng, p, t, k occur syllable finally, word medially. Word or syllable initially the clusters ny and pw, kw and mw occur.

A computerized phoneme count of text shows ɨ 16%, a 14%, n 9% and t 8%.

2.92. Grammar

The following outline follows closely Huismans' work (forthcoming).

Equational clauses in Angaataha have the same structure as the other languages. Predicate function is manifested by bound or free mood morphemes. These are -e (indicative), question word plus -e for question mood, -o (interrogative), -ntɨ'o (dubitative) and for negative the word maa'e. Question Equational clauses may occur without any noun, etc. Question stems that occur are napa *what* and maa *which*, followed by the appropriate function morpheme, e.g. -'o *he* (subject) or -'apɨ' (location) and closed by the indicative morpheme -e. maa-'o-e *which-he-is Who is he?*

maa-'apĩ'-ap-e which-(location)-to-is *Where is he going?*

Occurring in the basic Noun Phrase are possessors, nouns, demonstratives and adjectives. There is agreement between the noun, demonstrative and adjective. Each must occur with the noun class morpheme of the noun. This is the only Angan language known to have agreement within the phrase. The noun class suffixes are (1) -o with nouns for *man, heart* or *bird*; (2) -aatĩ with *woman, bird species*; (3) -ĩrĩ with *sweet potato, tooth*; (4) -a'a with *banana, stone*; (5) -atĩ with *tree, stone*; (6) -ĩpa with *cassowary, goods*; (7) -antĩ with *pig fruit* and many borrowed terms. Less frequent are (8) -angĩ with noun for *house*; (9) -anaatĩ for *knife*; (10) -i'ĩ for *net bag*; (11) -mwangĩ for *mouth, nostril*; (12) -inya for *children*. Possessors may be possessor pronouns or the basic Noun Phrase with the possessor clitic -mĩ.

Various clitics occur with the Noun Phrase and this then functions in other constructions, usually clauses. Subject function is unmarked. Object and Indirect Object occur with function marker -i. Others are -apĩ (reference), -isa (accompaniment 1), -iya (accompaniment 2), -unĩ (conjunctive), -ra (instrument), -enta (animate direction), and several locative forms including -aasĩnĩ *on* and -aatĩ'ĩ *in*. When the goal of direction is inanimate the reference morpheme -apĩ occurs. This morpheme covers the possibilities of reference, direction, purpose, desire and reason.

Subject Personal Pronouns are

	first person	second person	third person
singular	nĩnĩ	kĩnyĩ	ko (he) kaatĩ (she)
dual	ya'oangĩ yainsangĩ (ya)	sa'ooa'ĩ sainsaangĩ (sa)	kurĩ kapurĩ
plural	nya'ĩ	sa'ĩ	kiya

Independent verbs usually occur sentence finally with mood morphemes. Aspect in Angaataha is a separate category from tense. Independent verbs have the same structure in the first part of the word. Certain verb stems normally occur with na- or ka- prefix (compare Kapau) but others occur with neither. When ka- is prefixed to verbs normally prefixed by na- or neither, the idea of action already begun is conveyed. Indirect object prefixes occur immediately before the root. These are

	first person	second person	third person
singular	n-	nk-/'-	u-
dual	ny-	s-	u-
plural	ny-	s-	u-

When aspect occurs with Angaataha verbs certain basic subject suffixes precede them and other subject-persons occur in the same verb. This suggests that aspectual verbs were once two verbs which fused into one form. The common aspects are -osa (perfect), -ma (complete), -oaati (continuative) and -aa (imperfect). The latter only occurs in Imperfect verbs. The Basic Subject-person Set is:

	first person	second person	third person
singular	-ti	-pi	-ti
dual	-i	-Mi	-Mi
plural	-i	-Wi	-Wi

The morphophonemes M and W are both the phoneme p when they are preceded by a stem final long vowel. Elsewhere they are respectively m and w.

Imperfect verbs usually refer to present time. In the following discussion na- or ka- prefixes and the indirect object prefixes are included under the term stem. Thus Imperfect verbs consist of stem, basic subject suffixes, imperfect suffix -aa, verb stem *i do* and mood suffixes. All these suffixes are given in Appendix F, so that morphophonemic changes can be seen. The mood suffixes also change for person -o (first person), -ise (second and third person singular and dual), and -opo (second and third person plural). na-na-t-aa-y-o (prefix)-eat-I-(imperfect)-do-(indicative) *I am eating*. Negative consists of prefix maa- occurring following na- prefix. na-maa-na-t-aa-y-o *I am not eating*. Interrogative mood also changes according to person; -no occurs with first person and second person singular, -so with second person dual, third person singular, and dual, and -wo with second and third person plural. The first vowel of the indicative mood suffixes also occurs with other mood suffixes, i.e. o in first person, second and third person plural and i with the other persons. This suggests that another morpheme may be present as well as mood. na-na-t-aa-y-o-no (prefix)-eat-I-(imperfect)-do-(vowel)-(interrogative) *Am I eating?* Negative interrogative is the preceding interrogative occurring with maa- (negative). For Question mood a question word precedes the indicative form. napinti nantaayo what I am eating *What am I eating?* The Dubitative mood occurs with suffix -nti'o. na-na-t-aa-y-o-nti'o (prefix)-eat-I-(imperfect)-do-(vowel)-(dubitative) *Perhaps I am eating*. The Negative Dubitative is the Dubitative occurring with maa- (negative).

Past tense occurs with the same moods as Imperfect verbs. Unless the vowels above are subject morphemes neither subject or tense are indicated. The final morpheme of the verb is mood, which changes for person. Indicative mood distinguishes three different subject persons. However, with aspects other contrasts are evident. *na-ni-'o* (prefix)-eat-I(past indicative) *I ate*. *na-na-t-oaas-o* (prefix)-eat-I-(continuative)-I(past indicative) *I continually ate*.

Future tense occurs with the same moods as Imperfect. No direct subject occurs but future suffix *-ta* precedes the mood suffixes. *na-n-t-o* (prefix)-eat-(future)-I(indicative) *I will eat*. *na-n-ta-a-no* (prefix)-eat-(future)-(vowel)-(interrogative) *Will I eat?*

The Desiderative tense has a complex of tense, subject and mood that is hard to separate. The basic desiderative tense suffix is *-taati*, but *-ti'aaw* occurs with *we two* and *we*. This suffix is followed by the basic subject person set, then *-iy* or *-ai* which may be past tense stem of *do*, and mood suffixes occur finally. Desiderative could be another compound verb. *na-n-tan-t-iy-o* (prefix)-eat-(desiderative)-I-do-I(indicative) *I want to eat*.

The Imperative shows some relationship with the Desiderative. The mood suffixes appear to be *-aano* *I*, *-e* *you, he*, *-o* *we two, we*, *-se* *you or they two or all*. This gives a structure of subject suffixes and imperative suffixes. The subject suffixes have *-ti'aaw* for *we two* and *we*. Appendix F presents the fused morphemes. Only positive and negative forms occur with Imperative. *na-n-taano* (prefix)-eat-I(imperative) *I must eat*.

A Stative verb has been noted in third person singular. Its structure is prefix, root, reflexive suffix *-na*, stative suffix *-t* and mood suffixes. Until other persons are discovered the final two suffix sets are in doubt. *n-u-n-t-ise* (prefix)-open-(reflexive)-(stative)-he(indicative) *It is open*.

The Habitative only occurs with noun class morphemes and clitics, compare Kapau, in included clauses. The structure is prefix, stem, basic medial subject-person suffixes, noun-class suffixes, person suffixes and usually equative mood suffixes. *na-n-ti-'o-nin-e* (prefix)-eat-I-(male)-I-am *I am one who habitually eats*.

Dependent verbs usually occur sentence medially and show a relationship with a following verb. Primary dependent forms usually occur with *-i* (change of subject). Primary dependents distinguish future and non-future tenses.

Primary Simultaneous non-future dependent consists of stem, simultaneous non-future subject suffixes and the primary suffix *-i*. *na-ni-'on-i-'i* (prefix)-eat-I(simultaneous non-future)-(primary) *While I am eating he...*

Primary Simultaneous future dependent consists of stem, dependent future suffix *-sa*, simultaneous future subject suffixes and the primary suffix *-i*. *na-in-s-an-i-i* (prefix)-eat-(future)-I(simultaneous future)-(primary) *While I will eat he...*

In dependent verbs the aspect suffix is preceded by the basic medial subject person suffixes, Appendix F. *na-n-ti-ma-on-i-i* (prefix)-eat-I-(complete)-I(simultaneous non-future)-(primary) *While I ate it all he...*

Secondary Tight Antecedent (same place) verbs are followed by a clause with a non-motion verb. The close relationship between the two verbs is shown by the basic medial subject set, Appendix F. *na-n-ti* (prefix)-eat-I(tight) *I ate and I...* Secondary Tight Antecedent, but with a motion verb, occurs with suffix *-mi* for all persons. *na-na-mi* (prefix)-eat-I etc. (tight) *I ate and I...* The subject is determined by the following clause, as is the tense.

Secondary Loose Antecedent occurs with the basic medial subject suffixes, *-a* (loose antecedent) and a variation of the medial subject suffixes. See Appendix F. A lapse of time occurs before the action of the second clause. *na-n-t-a-ti* (prefix)-eat-I-(loose)-I *I ate and later I...*

Secondary Imperfect occurs with basic (independent) subject suffixes, *-aa* (imperfect), and another variation of the basic medial subject suffixes (see Appendix F). *na-na-t-aa-ti* (prefix)-eat-I-(imperfect)-I *While I was eating I...* The first person plural breaks a neat pattern with both Secondary Tight and Loose.

Secondary Complete occurs with basic medial set followed by *-mapi* (complete). The suffix *-mapi* is related to the primary suffix *-ma* (complete). *na-n-ti-mapi* (prefix)-eat-I-(secondary complete) *After I ate I...*

Secondary Continuative occurs with the secondary continuative suffix *-mpi* or *-insa* and the basic medial subject suffixes (see Appendix F). *na-ni-mpi-ti* (prefix)-eat-(continuative)-I *I continued eating and I...* Note that the subject suffixes occur finally with this verb.

Secondary Conditional occurs with the secondary imperfect suffixes followed by the conditional suffix *-aa'i*. *na-na-t-aa-t-aa'i* (prefix)-eat-I-(imperfect)-I-if *If I eat I...*

Primary Conditional occurs with *-sa* (dependent future), simultaneous future subject suffixes and *-aa'i* (conditional). It is the same as Simultaneous Future with *-aa'i* instead of *-i*. *na-in-s-an-aa'i* (prefix)-eat-(future)-I(simultaneous)-if *If I eat he...*

Contra-result occurs with contra-result subject suffixes and in first person with *-pani* (contra-result). This verb is followed by a clause with either the same or a different subject. *na-n-ti-pani* (prefix)-eat-I-(contra-result) *Lest I eat/he...*

Both Conditionals also occur with a following Contrary Fact Result clause and assume an unreal meaning. A Contrary Fact Result verb occurs sentence finally, but always with another clause. It consists of prefix, stem, contrary fact subject suffixes and -e (indicative). na-na-taani-'e (prefix)-eat-I(contrary fact)-(indicative) ...*I would have eaten it.*

Included clauses usually occur in regular clauses, but also in phrases. Included clauses, to date, are only based on independent verbs. Noun class suffixes and person-number suffixes occur with the verb. Compare the Habituaive, which has only been found in included clauses. The masculine and feminine forms are the most common, as follows:

Masculine

	first person	second person	third person
singular	- 'o-nini	- 'o-ngi	- 'o
dual	- 'ur-angi	- 'ur-aa'i	- 'ur'i
plural	- 'inkwan-aani	- 'inkwaas-aati	- 'inkwaasi

Feminine

	first person	second person	third person
singular	- 'aa-nini	- 'a-ngi	- 'aati
dual	- 'ins-angi	- 'ins-aa'i	- 'i'puri
plural	- 'iny-aani	- 'iny-aati	- 'inya

Further investigation will further clarify grammatical points in Angaataha and change some of the analysis as presented here.

2.10. Kamasa

Little is known of this small group of people, numbering about 50. For their history as related to the story of Katsiong see Sinclair (1966:80). Sinclair however did not mention the linguistic diversity which is present in Katsiong. Sinclair says the Katsiong people lived near the Tauri River at a village Katsipi. McCarthy (1963) mentions the villages of Katchipi and Wanyang, between the Isimp Divide and the village of Arifogo, on his 1933 patrol. Sinclair (1966) states Katsipi was still near the Tauri in 1937. The people were driven away by a Menya group (Gwatera in Sinclair 1966, and both Kwatala and Yamnaqanja in Fischer 1968) and came by stages to Katsiong in the lower mid Banir region. The Kwonikwinggi were also driven to Katsiong. Yaiepiep joined with some Simbi men and came to Katsiong, and still later Arifogo people came. Fischer (1968:37) says that the Yagwoia were the second group to come to Katsiong. The first people at Katsiong were the Kawacha and they had lived at Katsipi. Fischer, without giving any order of arrival, says that the Yamnaqanja (Menya), the Natsa (Angaataha) and the Inecha

or Kwamaqa (Kamasa) came later. Fischer says that Natsa probably means Simpi. While at Karunja a new hamlet from Katsiong I was given the name Chimbi as an alternative for Kamasa. Thus Sinclair's Simbi probably refers to the Kamasa, also Kwonikwinggi and Yaiepiep (?) are likely to be Kamasa. Both Angaataha and Kamasa may have lived at the Isimp River (=Simbi). Fischer's use of the name Kwamogh (=Kwamaqa) is close to a village name Kwamaka on an Army map. The map locates Kwonikwinggi 5 miles to the east of Kwamaka. On the map a new village Wapira-Kamaka replaces Kwamaka. So perhaps Kwamaka or Kamaka are alternative names for Kamasa. This is possible because when I visited Karunja hamlet Kamasa men from the other hamlet Kazavarepa said that more Kamasa people lived in the Menya village of Akwanje. They may have referred to that general area as Akwanje.

From Appendix G there are 18 Kamasa at Katsiong.

2.101. Phonology

The 12 consonants of Kamasa appear to be p, t, k, glottal stop, h, m, n, ng, s, r, w, y. The seven vowels are i, ɪ, u, e, a, o and aa.

The stops and s are voiced following nasals and between vowels.

The vowels ɪ and a appear to be modified, particularly by following phonemes. Backed or rounded variants occur before velars, w or o. Fronted variants occur between any combination of s, y or i.

Voiceless vowels were observed word finally.

The phonemic system appears to be like Ampale.

Glottal stop, ng and r do not occur word initially. No consonant occurs word finally. Glottal stop, m, n or ng occur syllable finally. Combinations 'm, 'p, 'y, 'n, 't, 'k, pw, kw, hw, sw, mw, ngw, ky, ny, nk occur in the short sample. Syllabic nasals occurred in the sequence 'm'm (compare Kapau).

The vowels ɪ and o do not occur word initially nor the vowels u word finally. Combinations of vowels are rare, but the following were noted iaa, aai, aae, eaa, oi, io, ai and au.

2.102. Grammar

Several nouns end in -voko or -miko or -miko and these appear to be variations of an indicative equative morpheme (compare Ampale). Occurring with pronouns is -ko, also probably equative. Common partials occurring before these equative morphemes indicate noun class morphemes.

The numerals for *one* and *two* seem to be based on a morpheme hu (compare Menya). The other numerals are based on tu *this*.

Most of the verbs in the lists occur with *-mino* which may mean *he* (present), but could be *I* (present).

The Personal Pronouns are:

	first person	second person	third person
singular	niko	siko	s ^h waninko (?)
dual	yeko	kaiko	kaiko
plural	newako	?	eko (?)
	naako		

2.11. Kawacha

The only known speakers of Kawacha number about 30 and live in Karunja, one of the three hamlets into which the old Katsiong settlement is divided (see Kamasa introduction above). Fischer (1968) calls these people Katje (=Kaacha), the Yagwoia term, but notes that they call themselves Kavotjo (=Kaawacho). A word list was collected in the Langimar Valley from visitors from Katsiong and two other lists from Karunja hamlet.

2.111. Phonology

The consonants appear to be p, t, k, glottal stop, f, m, n, ng, s, l, r, w, y. It is likely h also occurs. The vowels are i, i^h, u, e, a, o and aa.

The stops are voiceless word initially but tend to be voiced after nasals and voiced and fricative between vowels.

The phoneme s is an affricative. The phoneme l is a lateral which fluctuates with a voiceless lateral fricative word initially and appears to be [ʃ] word medially. The phoneme r varies between an alveolar flap and a lateral flap. Closer attention needs to be given to the phonetics in this area.

Some modification of vowels i^h and a were noticed next to y and s, producing a fronting, and next to w, o and velars producing backing.

Some syllabic nasals were recorded in fluctuation with nasal plus i^h usually. Thus msa'a and m^hsa'a both occurred for *hair*.

Glottal stop and ng were not observed word initially, nor any consonant word finally. Elsewhere all consonants occurred. The following consonant clusters occurred: pw, kw, py, ny, my, ns, nk, mm, nn, mp, ms, ngw, 'm, 'w, 'y and 'ny.

The vowels *ɨ*, *o* and *u* did not occur word initially, but all occur medially and finally. The combinations of vowels noted were *ei*, *aai*, *ai*, *ia*, *oi*, *io*.

2.112. Grammar notes

Some verbs occur with a *ka-* prefix (compare *Kapau*). The verbal suffixes varied too much for profitable comment. Modifiers follow the noun. The numerals *one* and *two* are based on *hu* or *hi* and for *three* and *four* are based on *ta*, probably *this*. This numeral system is like other Angan languages.

The Personal Pronouns are:

	first person	second person	third person
singular	<i>nyi</i>	<i>si</i>	<i>ke</i>
dual	<i>ye</i>	<i>si (?)</i>	<i>hepaa'u</i>
plural	<i>nemaka</i>	<i>lenemaka (?)</i>	<i>hiwaaweke (?)</i>

2.12. Ankave

The Ankave language is the biggest of the Angan languages lying completely within the Gulf District. There are about 1,500 speakers and 485 of them have been censused. The Ankave live in the valleys of the M'bwei River and the Upper Swanson. Most of the population live in the latter area. Some dialect differences were noted between the M'bwei and Swanson. The Swanson River is called Ankave in the language. Another name suggested was Paayita, but this seems to be a clan name. The *Kapau* call the people Kwingi.

2.121. Phonology

The consonants of Ankave appear to be *p*, *t*, *k*, glottal stop, *m*, *n*, *ng*, *s*, *r*, *w*, *y*. There appears to be an *h* word initially, which sometimes fluctuates with *s*. There could be a series of prenasalized stop phonemes. The vowels are *i*, *ɨ*, *u*, *e*, *a*, *o* and *aa*.

The voiceless stops have voiced fricative variants between vowels. The phoneme *y* fluctuates with fricative *y* between vowels.

Vowels are affected by their environment, especially *ɨ* and *a* which are fronted or backed according to whether they occur next to front or back phonemes.

The vowel *i* does not occur word initially, but otherwise all vowels occur word initially, medially and finally. The only vocoid clusters noted were after medial *p*, [*b*] so could be interpreted as *ya*, *ye*, and *yaa*.

The only instance of an initial *ng* is syllabic and occurs in the word for sugarcane. The phonemes *r* and glottal stop do not occur word initially. Glottal stop and one instance of *n* were recorded word finally. The consonant clusters were 'm, 'n, 'w, 't, 'd, 'y, md, mw, nk, ny, kw, gw, ngw and py.

2.122. Grammar notes

Final glottal stop is a feature and in one word list was lost if *-ka* occurred. The Ikundi list (M'bwei Valley) has *piyaka* and *piya' wet*. The possible morpheme *-ka* or *-'* could be equative and the recurring partial with many nouns *-pi'* may be noun class morpheme plus equative morpheme. In the list from Yagera (Swanson) the pronouns end in *re* or *de* which also could be equative (compare *Kapau ti* (indicative equative)). The list from Yagera has *nyonde I* and list from Bu (Swanson) *nyon'i I*.

The verbs in the list do not appear to be the same person or tense though *naadina he eats* is likely to be equivalent to *Lohiki naari he eats*.

The Personal Pronouns are:

	first person	second person	third person
singular	nyona	yoka	o
dual	yuwaawi	waawo	awaaki
plural	none	soyi	owaa or jawaaya

2.13. Ivori

The Ivori language is spoken in the valleys of the mid Ivori. There are perhaps 400 speakers of this language, but no census has been taken. The name *Tewe* (or *Dewe*) was suggested for these people and may be based on the *Kapau* name for them, *Tigwaata*. *Tewe* was the name of an old Census Division. Franklin (1970) used the name *Agama*.

Ivori is closely related to the *Lohiki* language. The percentage given in this paper will undoubtedly rise as the two languages are studied

further. Toto (or John), the principal Ivori language helper, felt that Lohiki was another language.

2.131. Phonology

The consonants of Ivori appear to be p, t, k, glottal stop, h, m, n, r, w, y. The status of glottal stop is in doubt as all utterances end in glottal, sometimes with a voiceless vowel release. The vowels are i, ɪ, u, e, a, o and aa.

The stops are voiceless word initially and p fluctuates with a bilabial fricative [p]. Word medially the stops are voiced, even in clusters [bd] and [bg]. Between vowels the stops also tend to be fricatives. The phoneme h fluctuates initially with [ʃ]. The phoneme n becomes the velar ng before velars.

The vowel e may be basically [æ]. Word finally it is hard to hear the difference between vowels, especially ɪ and a which are shorter than the other vowels. These short vowels are modified by w and y much the same as in other Angan languages. Some syllabic nasals were noted. One speaker fluctuated between a syllabic m and n before t.

The consonant r is the only one not to occur word initially. No consonant occurs word finally, unless glottal stop should be phonemic. Clusters noted were mk and mn, in which m is syllabic, mt, nt, nk, pt, pk, ky, kw, pw, mw, also nkw, pkw, mpy and mpw.

The only vowel not occurring word initially is ɪ. Elsewhere all vowels occur. Clusters noted are aai, iaa, io, oi, ie, ia.

2.132. Grammar notes

The partial -pɪ' occurs with many nouns in Ivori. The adjective follows the noun, haa saaigwe' stone small *a small stone*. The morphology of the verb is very similar to Lohiki, nari *he eats*, nɪmda *I eat*.

The Personal Pronouns are:

	first person	second person	thrid person
singular	to'	okɪ'	o
dual	toya'	oyankwe'	oya
plural	tonaai	aawa	taaikuwa

Compare the Kavaru pronouns of Lohiki.

2.14. Lohiki

The Lohiki language is spoken in the south-west of the language family area. It has an estimated 850 speakers, 350 of which have been censused. The language covers some small tributaries of the Ivori River, the main section of the Lohiki River, except its headwaters, and most of Evori Creek and Muruwaier River. Names suggested for this language include Haagoya, which is the Kapau term for the people, but this name is the same as Hangoia Census Division, which is completely Kapau. The name Lohiki, after the river, is used here.

2.141. Phonology

The consonants of Lohiki appear to be p, t, k, m, n, r, s, w, y. There could be f, voiceless bilabial fricative, but this may fluctuate with p. Glottal stop occurs finally and is probably not phonemic. One instance of ng between vowels was recorded, so ng may be a rare phoneme. The vowels appear to be i, ɪ, u, e, a, o and aa.

The stops and the affricate s [tʃ] are voiceless word initially and tend to be voiced word medially. The stops also tend to become fricative medially. Following nasals the stops are usually voiced. Initial k fluctuates with glottal stop. Stops fluctuate from voiced fricative to voiced stop when they occur before another stop.

The long vowel aa tends to be backed before k. The short vowels ɪ and a are backed or fronted according to the occurrence of back or front consonants or vowels. Before y and w vowels tend to glide to nonsyllabic i and u respectively.

Except r all consonants occur word initially, none finally and all medially. Clusters nt, nk, kw, pt, pk, mk, mn, mt, ny, pw, mp, mm and pkw were noted.

All vowels occur medially and finally and all but ɪ word initially. Clusters of vowels that were recorded in the short list were ai, aai, iaa, eaa, ie, ia and oai.

2.142. Grammar notes

The partial -vɪ' occurs extensively with nouns and may be an equative morpheme, or a noun class morpheme or both. The adjective follows the noun it modifies. andaga saaigwa' stone small *a small stone*. Smoke of a fire is rendered ta umagavɪ' fire smoke. Special nouns occur with certain verbs. The entry for *he coughs* is waavga' which is a cough.

The Personal Pronouns are:

	first person	second person	third person
singular	nna	ndɪ	ndo
dual	ndannɪ	aavoya oyaanu'	aavoya
plural	naaitone'	aave anunu	aave daawuri

A man from Kavaru, on the other hand, gave the pronouns as:

ndo	ogɪ'	yago'
toya	yaaidoaai	goya'
tone'		ivaigi

There is a mixture of persons and tenses in the verbs in the lists. It appears that -aari means *he* (present) as in *waari he goes*, *paari he comes* and *naari he eats*. Likewise -mda' means *I* (present).

Dr Capell (personal communication) lists an Obi paradigm, probably of the verb *sit* as follows:

nna	omaamda	<i>I</i>	<i>I sit</i>
nda	omaaya	<i>you</i>	<i>you sit</i>
oga	omaaye	<i>he</i>	<i>he sits</i> (also <i>o he</i>)
tonai	omaayenda	<i>we</i>	<i>we sit</i>
ndawai	omaayendevɪ	<i>you all</i>	<i>you sit</i>
	omaaye		<i>they sit</i>

Here the verb root *omaa sit* is followed by tense (?), and subject person suffixes. Capell also cites one future form *nna badana omaaka I* (temporal) *I will sit I will sit*.

2.15. Angan Relationships

In Angan languages even in areas where a trade language is understood, several linguists have found it difficult to elicit information of high accuracy. When the author elicited verbs in Kapau, asking for third person singular of a present tense, he was given subjects *I, you, you all, he, they* and tenses immediate future, present continuous, imperative, immediate past and habitual. The phonologies and grammars are complex. Therefore the results of this comparison are tentative and dependent on further field work. This mainly applies to Kamasa, Kawacha, Ankave, Ivori and Lohiki. The author believes that such work will strengthen the suggestions made here and only slightly modify the position of individual languages.

An inspection of the Table of Cognate Percentages (2.2.) reveals that Kapau is most closely related to Menya; after Kapau, Menya is most closely related to Yagwoia, and the line continues through Ampale to Kawacha, to Kamasa and probably even to Angaataha. This final link is suggested on the basis of previous work (compare Hooley and McElhanon 1970). A secondary line branches from Ampale to Baruya and Simbari, which are closely related. The Yaguya dialect of Yagwoia should be closer to Baruya than the main dialect is. Another line from Kapau continues through Ankave to Ivori and Lohiki, which are also closely related.

2.151. Notes on Sound Changes

The main sound changes are discussed here and a study of the language lists will reveal other changes as well.

Syllabic *m*, word initially in Kapau, Menya, Yagwoia and Kawacha is still syllabic but assimilates to the point of articulation of a following stop in Kamasa, Ankave, Ivori and Lohiki. In Simbari and sometimes in Ampale it becomes *mi* and in Baruya and sometimes in Angaataha it becomes *mi*. Ampale sometimes becomes *mi* also. Ampale, Angaataha and Simbari also have syllabic nasals.

An initial *h* in Kapau, Menya, Yagwoia, Ivori and Lohiki usually becomes *s* in the other languages, except Angaataha and in some words also becomes *t*. In several languages there is fluctuation between *h* and *s* word initially, though the norm is usually clear. In Angaataha an initial *n* corresponds to *h* in Kapau and other languages.

Inpractically all instances an *ng* in Kapau becomes *n* in Yagwoia, though *ng* occurs as a rarer phoneme in Yagwoia. Sometimes a Kapau *ng* becomes *m* in Ampale, Baruya, Simbari, Kawacha and Kamasa. This may have been *mng* at an earlier stage. The medial combination *mng* in Kapau becomes *ng* in North Menya and *m* in South Menya. The Ankave language follows Kapau closely, but Ivori and Lohiki usually have *g* for Kapau *ng* except after *i* and front vowels when *ngg* occurs. There are exceptions *yim'inga wind* in Ankave is *yim'ga* in Ivori and *yam'ga* with syllabic *m* in Lohiki; both may be caused by the contraction. Ankave *egg* is *ki'm'inga* while Ivori is *mungge* or *mge* and Lohiki is *mge*, the last two forms with syllabic *m*. Perhaps the Kapau words for *egg* and *head*, both *mnga*, were not originally homophonous. In Ankave medial *nggw* (or *nk*) usually becomes *bg* (or *pk*) in Ivori and *vg* (or *pk*) in Lohiki. The exception is Ankave *maanggwu full*, which in Ivori is *maangwe* and in Lohiki is *maagwe*; Kapau is *maanko*. Normally medial *ngg* (or *nk*) becomes *g* (or *k*), see *blood*. Perhaps Ankave *full* is *maanggu* and *belly* is *aanggwu*. Perhaps the *b* and *v* before *g* will prove to be phonemic *w*. With such limited data further speculation is unwise.

The backed velar q in Kapau is h in Ampale, and sometimes remains q and sometimes becomes k in those languages with both q and k. Kapau k sometimes becomes q and sometimes remains k in the languages with two velars. Once in Yagwoia an l occurs where the Kapau equivalent is q. In Baruya both k and q of Kapau often become g (prenasalized). In other instances q in Kapau becomes k in Baruya.

Often in Baruya and Simbari prenasalized stops are equivalent to voiceless stops in Kapau and other languages. In Kapau t in some words becomes r in Ampale, Kamasa and Ankave. Once Kapau n became t in Menya, Kawacha and Kamasa and r in Ampale. The Ivori word to' I may be an example of a change of Kapau n to t. Menya, Yagwoia, Kawacha and Kamasa for *you* (singular) was probably the result of adding -yɪ to Kapau t, see especially Menya pronouns.

Kapau v often becomes w in Yagwoia. The younger generation, thirty years old and less, in Baruya is pronouncing y where the older generation says vy. Kapau w often becomes v in Ampale, Kawacha and Kamasa.

Some dialects of Kapau have s where Yagwoia has hy. Kapau s is phonemically yh. The Kapau word for *skin* is hewa in Morobe and fewa elsewhere. Note that Menya is hviwa and in South Menya hiwa *skin*. Kapau f is phonemically vh. In other languages some words which are different in the main Kapau dialect appear in other Kapau dialects. Kapau *yanga leg* is suka in West Kapau; this is close to the Menya word. West Kapau could have both words in use.

Kapau glottal stop becomes a backed velar stop in Menya. Some glottal stops and voiceless velars in one language are lost in other languages.

Assimilation of consonants to a following consonant is a tendency in most of the languages. However, in Baruya all consonant sequences assimilate to the same point of articulation.

The vowels appear to be more regular though some changes are evident. Kapau a becomes i before s in Yagwoia. Kapau a also becomes i in Menya, but Kapau e may also become i in Menya. Kapau e becomes aa in some Ivori words. Kapau ya becomes e in Ankave. Several instances of Ivori ɪ becoming Lohiki a were noted.

2.152. Common Phonological Features

All Angan languages appear to have phonemes p, t, k, m, n, w, y and probably ng. Most languages have glottal stop, the exception being Menya; with Lohiki and Ivori possible exceptions. Most of the languages have an alveolar flap or an unflapped lateral, Baruya and Simbari have both, and Kapau and Menya have neither. About half the languages appear to have a phoneme h. Kapau, Menya and Yagwoia have a backed velar as well as an

ordinary velar. One dialect of Ampale has three phonemic sibilants, another dialect has two sibilants. Some of the languages have one sibilant. Menya appears to have two. Kapau, Menya and Ampale have a bilabial fricative and perhaps other languages do also. Baruya has no syllabic nasals and their phonemic status in Simbari is unknown. Most other languages have syllabic nasals.

All Angan languages appear to have seven vowels. These are usually the same, but Ampale has no o vowel, and has a phonemic ə which appears to have developed from an earlier vowel cluster. The seven vowels are i, ɨ, u, e, a, o and aa. In most languages the vowels ɨ and a are short, i and u are medium length and e, o and aa are long. Phonetic variation in the vowels is great and the quality is hard to determine. The difference in length of these vowels differentiates them clearly, despite their wide phonetic variation. Vowels tend to be slightly longer in stressed syllables or in short words, then in unstressed syllables or in long words. In most languages studied in depth, vowel allophones go across the vocoid chart with less variation up and down the chart (compare Lloyd and Healey 1970).

Clusters of two consonants occur word initially and clusters of three word medially. Clusters of two and sometimes three vowels occur in many of the languages. The maximum syllable of consonant, semi-vowel, vowel, vowel, consonant is found in most Angan languages.

Tone and stress are combined in a complex unit which usually occurs in connection with the grammatical stem. Angaataha, with four tonemes, is noticeably different from the other Angan languages. In Angaataha stress is also linked to high tone. Thus Angaataha is like a 'tone language' and the others are more 'intonation languages'.

2.153. Common Grammatical Features

Common features of grammar are evident throughout the languages. The author considers that the grammatical comparison parallels the lexical comparison.

Counting systems are very similar. There are no numeral roots; the number words are based on modifier roots meaning *someone*, *another*, *this* or *that*. The modifier roots occur with singular and dual morphemes, and often occur with noun class morphemes. Thus there are words for *one*, *two* and phrases literally *two one* for *three* and *two two* for *four*. For higher numbers the nouns *hand* and *foot* are used.

Within the Noun Phrase possessor expressions precede the noun Head and

various modifiers follow. Various clitics occur with phrases to mark the clause function. These clitics are quite similar from language to language, see end of this sub-section.

Within the clause, adjuncts or verbal nouns occur to specify a particular action of a general verb. Some languages have an expression which translates literally as *water do* meaning *wash things*. Other examples are *sleep lie* meaning *to sleep*, *bite cut* meaning *to bite*, *ear hear* meaning *to hear*.

Usually the verb is the last item to occur in a clause. Subject, Object and Predicate functions often occur in that order. However, in many languages this order is not rigid. Case clitics mark the various functions.

The structure of the verb is fairly uniform. Often mood prefixes, then indirect object prefixes precede the root. Following the root are usually voice suffixes, sometimes aspect suffixes, then tense suffixes and subject person suffixes. These affixes are compared at the end of this sub-section. Sometimes aspect and tense are combined in one morpheme and sometimes these two and subject person are combined in one morpheme.

Future tense is usually stem, subject person suffixes and future morphemes. The unusual feature in Angaataha of a second subject set of affixes which normally occurs before aspect suffixes does not occur in Angaataha Future tense (see Appendix F).

Mood morphemes are similar in Angan languages studied in detail. Generally the same range of tenses occurs with similar mood systems from one language to another. Angaataha has an aspect system and not as many tenses as other Angan languages.

Morphophonemics are generally complex, especially in Ampale and Angaataha. A description of such changes has not been given in this paper. Oates (1968, p.6) has a short discussion for Kapau and Lloyd (1969) covers some features of Baruya morphophonemics.

There are recurring partials which occur with noun roots (compare Historic Class Markers in Lloyd, 1969:27).

In Kapau, a partial *-ka* occurs in such words as *man*, *male* and is usually the same in Menya, Ankave, Ivori and Lohiki. In Yagwoia, Baruya and Simbari *-la* occurs and in Ampale a possible shortened form of *-la* modified the preceding vowel; see item 1 *man* in language lists. Some Kapau roots, which appear to be basic, are the same in Menya, but occur in Yagwoia with a partial *-sa*, and in Baruya, Simbari and Kawacha with *-ka*, in Ampale with *-ha* and in Kamasa with *-a*; (see item 34 *ground* in language lists). Most languages, in some words at least occurred with

-ya, which is called substantive marker in Lloyd (1969).

Personal Pronouns

The Personal Pronouns are difficult to elicit as often demonstrative pronouns are given instead. This is particularly true in third person as commented in the text. The roots of the Personal Pronouns occur with another partial in most languages, Kapau -i, Menya -i or -e, Yagwoia and Ampale -ka or -kwa, Baruya -mĩ, Simbari -wĩ, Kawacha parallels Menya, Kamasa -ko. Thus in all Angan languages, except Ivori, nĩ means *I*. Kapau yaaĩ *we two* is cognate with ye of Menya, Kawacha and Kamasa and probably cognate with Angaataha ya(-) and Ankave yĩ(-), though these two appear to have noun class morphemes. Yagwoia nankwali is cognate with Baruya naarĩmĩ and Simbari naawĩ. Kapau nai is cognate with Menya ne, Yagwoia nenkwa, Baruya nemĩ, Simbari neno, Kawacha nemaka, Kamasa newako and probably cognate with Ankave none, Ivori tonaai, Lohiki naaitone and Angaataha nya'ĩ. Ampale appears to reverse the forms of first person dual and plural (compare Yagwoia). Kapau nti *you* is close to Lohiki ndĩ and cognate with Menya and Kawacha si, Yagwoia sika, and Kamasa siko. Baruya gimĩ *you* is cognate with Simbari giwĩ, Ampale kika and Angaataha kinyĩ. Menya, Yagwoia and Kamasa have qai *you two* which is probably cognate with Kapau qi, Baruya kirĩmĩ, Simbari kiwĩ. Ampale zika *you two* is cognate with Kawacha si and Angaataha sa(-) and also probably with Kapau qi. Kapau hai *you all* is cognate with Menya he, Yagwoia helka, and through Yagwoia with Baruya sarĩmĩ, Ampale zekwa and Angaataha sa'ĩ. Kapau qai (third person singular) is cognate with Baruya gamĩ and Ampale kaaka. The evidence is not established for the other languages. Kapau qui *they* is cognate with Menya qui and Baruya kumĩ.

Case

Subject case is unmarked in the four languages analysed and probably Menya. Object and Indirect Object are -'i Kapau, -i Menya, -yĩ(no) Baruya and -i Angaataha, but Ampale does not correspond. Reference in Kapau is -'na (human reference), -na(no) in Baruya and -'na Ampale. Location *at* is -u in Kapau and -wĩ(no) *to*, *at* in Baruya. Baruya -ba(no) *at*, *to* is very close to Ampale -pa *at*. Origin or Source in Kapau is -ntaa *from*, in Baruya is daa'nyi, and in Ampale -ntaa'ne. Accompaniment in Baruya is -zi(no) in Ampale is -'nsi and in Angaataha -isa. Instrument is marked by the same morpheme as Accompaniment in Baruya and Ampale, but not in Angaataha. The possessor morpheme occurring with nouns is -'iya in Kapau

and -iyaqa in Menya. In Baruya, possession is marked by -yɪ-re (indirect object)-possessor and the first morpheme agrees with the first part of the Kapau possessor morpheme.

Equatives

Indicative equatives correspond a little. Kapau ti is similar to Baruya feminine equative clitic -si, Menya -i is similar to the Baruya basic form -yɪ(ro) and somewhat like Angaataha -e. The Contradictive in Kapau, maa, is similar to Angaataha maa'e (negative) and Ampale -'maa(ha) and shows some correspondence to Baruya mi(ko). The Interrogative in Kapau, taa, is similar to Baruya daa(ko) and Ampale -taa(ha). For Dubitative there are similarities in Baruya dingɪ(ko) (also dɪqa(ko)). Ampale -tɪkena and Angaataha -ntɪ'o.

Personalizing Clitics

The masculine morpheme in Kapau -o or -qo is -wu Menya, -hwa Ampale and -'o Angaataha. Another masculine morpheme in Baruya -wa occurs with some modifier roots as well as the regular masculine morpheme -lo. In Kapau -n means *I* and corresponds to -nyo Baruya, -'ni Ampale and -nɪɪ Angaataha. Menya -ye *we two* is close to Ampale -yaa'i and may correspond with Kapau -aai. Kapau -nai *we* is close to Menya -ne, Baruya -naawo, Ampale naa'ni, though Angaataha does not appear to correspond. Menya -k *you* is close to Baruya -gɪ(no) and perhaps related to Angaataha -ngɪ and even Ampale -si (see feminine -ki). Kapau -aanguɪ *you two* is similar to Menya -(qwa)aanqwa and shows a relationship to Ampale -aahusi and thus to Angaataha -aa'ɪ. Kapau -hen *you all* is close to Menya -en; Ampale -aasi is close to Angaataha -aatɪ. Third person in Kapau is quite close to Menya and Ampale. Kapau -qo *he* is similar to Yagwoia -qwa and Angaataha -'o. Yagwoia -qwa-laaqwu *they two* seems to correspond to Kapau and the others. The feminine morpheme in Kapau is -i (singular and plural) and -s (dual), and in Menya and Ampale -i (singular) and -ava (dual and plural). The Baruya masculine and feminine morphemes change for person, but the singular forms -i (masculine) and -' (feminine) which is derived from -wo are the reverse of the other languages. Perhaps Yagwoia will reveal structures which indicate the process of change.

Voice Suffixes

Reflexive voice is -n in Kapau, Baruya, Ampale, Angaataha.

Causative voice is -q in Baruya and -k in Ampale.

Mood

The possible indicative mood prefixes in Kapau *qa-* and *na-*, appear to be *a-* in Menya and *ka-*, *na-* or unmarked in Angaataha. Negative mood prefix is *maa-* in Kapau and Angaataha and *ma-* in Baruya and Ampale. Interrogative mood prefix is *ta-* in Kapau, *da-* in Baruya, *ra-* in Ampale. Interrogative is manifested by a suffix in Angaataha. Dubitative mood prefix is *daqa-* in Baruya and *ka-* in Ampale. Dubitative is a particle in Kapau and a suffix in Angaataha.

Indirect Object Prefixes

In all languages studied in depth third person has only one form regardless of number. This form is *u-* or *w-* in all languages. First person singular is *n-* in Kapau, Ampale and Angaataha and *nyi-* in Baruya. First person dual corresponds in Kapau and Ampale. First person plural is similar in Kapau, Baruya and Ampale. Second person singular corresponds in all languages, Kapau being most divergent. Second person dual and plural are the same and correspond between Ampale and Angaataha.

Tense-Aspect

The following tense suffixes correspond:

Kapau	- ' (present active)	Menya	-iq (active or present)
	-na (immediate future)		-in (immediate future)
	- ' (regular past)		-ik-iq (regular past)
	-ang (distant past)		-aang (distant past)
Kapau	-mang (present complete)	Baruya	-man-ig (incomplete)
	-ng (present stative)		-ig (stative)
	-ta (future)		-da or -de (future)
(?)	-nhe (subjunctive)		-diko (subjunctive)
Kapau	-na (immediate future)	Ampale	-na or -ta (near future)
	-nhe (subjunctive)		-ne (subjunctive)
Kapau	-ta (future)	Angaataha	-ta (future)
	-mang (present complete)		-ma (complete aspect)
(?)	-atong (present durative)		-oaati (continuous aspect)
Ampale	-ta or ra (stative?)	Angaataha	-ti (stative?)

Subject Suffixes

Those of Menya present are very similar to the Kapau (n) series, which occurs with present tenses. The doubtful instances are Menya -we and Kapau -o *we two*, and Menya -in and Kapau -i *you two, they two*. Both are acceptable changes. Those of Menya future are the same as Kapau (m) 1 series for singular number and first person plural. Those of Menya past have many similarities to Kapau (a) 3 and (a) 2 series. This agrees with the lexical comparison.

Those subject suffixes of Baruya complete and incomplete, especially in shortened forms, are very close to Kapau (n) series, except for third person singular. Those of Baruya desiderative for *I, he, and we* are very similar to Kapau (m) 1 series. There is a little similarity between those of Baruya regular past and Kapau (a) 2 series, and between Baruya future dependent and Kapau (m) 2 series.

There are some similarities between Ampale basic subject suffixes and Kapau (n) series, between those of Ampale imperative and Kapau (m) 1 series, compare also Ampale subjunctive; and between Ampale different subject non-future and Kapau (n) 2 series.

No connection between Angaataha and Kapau subject suffixes were recognised.

Baruya desiderative subject suffixes, in most forms, are similar to Menya future. Baruya complete and incomplete in many forms are similar to Menya present. Some forms of Baruya regular past are similar to Menya past. There are more resemblances with Menya than with Kapau. This agrees with geographical distance, but conflicts with the present lexical evidence.

Half the Baruya complete subject suffixes are similar to Ampale basic, and half the Baruya desiderative are similar to Ampale imperative. Some forms of Baruya Subjunctive are similar to those of Ampale.

Baruya complete subject suffix for *you all, they*, may compare with Angaataha imperfect. Perhaps Baruya dependent future -o *he* compares with Angaataha simultaneous future *he, -on*.

The meaning has changed but Ampale different subject sequence suffixes -ina *you* and -i *he, you two, they two* compare with Angaataha different subject simultaneous suffixes -in *you* and -i *he, you two, they two*.

2.16. Neighbouring Languages

Seventeen languages belonging to several groups border on the Angan family. These can be seen on the maps (I and II), and further information is available in the alphabetical list of all language names. The three Eleman languages used for comparison were chosen on the advice of H.A. Brown. The two Austronesian languages in the Morobe District belonging to different families were chosen on the advice of B.A. Hooley, S.I.L.

Kenati, Owena and Kovio are not well known so notes are given here. The Kenati people number 536 and live downstream from Wonenara. Stories from the Kenati and Baruya state they are descendents of Baruya and Fore (or Gimi) people. They belong culturally to the East New Guinea Highlands people; for example, they have long hair and practise nose bleeding. Kenati has the following cognate percentages (170 words): with Gimi 19%, Fore 17%, Owena 19%, Awa 12%, Tairora 14% and Waffa 12%. In the 100 list Owena was 21% and Tairora 12%, the rest remained the same.

The Owena people number 334 and live in two villages, Owena and Waisara, between the Awa and Tairora languages along the north side of the Aziana-Lamari divide. This author's preliminary survey (170 words) recorded the following cognate percentages: with Gimi 18%, Fore 16%, Kenati 19%, Awa 30%, Tairora 19% and Waffa 17%. In the Swadesh 100 list percentages usually rose 2%, Awa remained the same, Tairora was 26% and Waffa was 21%.

The Kovio people live in the villages of Urulau and Okavai, Gulf District, and there are 205 speakers. Their land extends over the old village sites of Kapui, Kopo, Sisiana and Inaufunga in the Central District. Kovio is considered one of the three dialects of Mekeo, an Austronesian language. Andrew Taylor (BFBS personal communication) gives a percentage of 75% with West Mekeo and 71% with East Mekeo. Andrew Pawley, (Auckland University) and others are preparing a paper tentatively entitled 'Origins of the Austronesian Languages of Central Papua'.

2.161. Lexical Relationships

The highest cognate percentages of each of the 17 neighbouring languages with any Angan language will be given here.

The Gimi language shows 5% with Angaataha; Fore 5% with Kapau, Yagwoia, Baruya, Ampale and Angaataha. The Kenati language shows 6% with Ampale and Angaataha, 5% with 2 others and 4% with Baruya. The Awa language shows 5% with Angaataha; Tairora 4% with Kapau, Menya, Ampale and Angaataha; Waffa 4% with Kapau, Menya, Yagwoia, Baruya, Ampale and Angaataha. Owena shows 3% with Ivori, Lohiki and Angaataha. In the 100 list Fore, Awa, Tairora and Waffa rose 1%, Kenati fell 1% and the other 2 remained the same with the above Angan languages.

The Maralanan language shows a relationship of 1% with Kapau as well as many other Angan languages. Taiak shows 1% with Kapau, Menya, Ampale and Ivori. Kovio shows 2% with Ivori and 1% with the rest.

The Biangai language shows a cognate percentage of 4% with Kapau and Ampale; Welī shows 3% with Menya, Baruya, Simbari and Ampale; Kunimaipa shows 4% with Ampale. In the 100 list the only change was Welī to 4%.

The Toaripi language shows cognates of 1% with Kawacha and Kamasa; Opau shows no relationship; and Ahiave shows 1% with Kapau, Menya and Angaataha. In the 100 list no relationship is shown.

The Pawaia language shows 3% cognates with Baruya and Kawacha. In the 100 list Kawacha is 4% with Pawaia.

The lexical items which are cognate in most Angan languages and also cognate in other languages will now be mentioned. The stem for *ear* in Fore is *ge* and *'eta* in Gimi. The Fore *g* and Gimi glottal stop is a common sound shift, so these are plainly cognate. The Kapau word is *qata ear*, glottal stop and *q* being a regular sound shift. The Gimi syllable *ta* may be a morpheme, but this is not established; so the Gimi and Kapau roots are apparently cognate and hence cognate with the Fore root. The verb root *eat* is *n*, which is cognate with East New Guinea Highlands languages and the Kunimaipan languages. In many languages *drink* is literally *water eat*. The verb root *speak* is *t*, *d* or *r* in Angan languages and is *ti* in Tairora. The verb root for *sleep* in Fore is *wai* and in Kapau *we* and in Baruya *war*. Another widespread cognate is the pronoun *I*. Gimi and Biangai have *ne*, most of the East New Guinea Highlands and all the Kunimaipan languages are cognate with most Angan languages which are *ni* or *ni I*. The Kenati root, for *brother* is *taa*, exactly the same as Kapau and all Angan languages are cognate. The Kenati root for *sister* is *naano*, Kapau is *naan*, and most Angan languages are also cognate. Fore *pig* is *yagaa*, Kapau is *yaaqoe'a* and five Angan languages are cognate with the Kapau root. Tairora *taro* is *sara* or *kara*, Kapau *qaawa* and Baruya *kaata*, where the final Baruya syllable is a noun class morpheme. Gimi *sweet potato* is *isapa* and the nearest Angan language is Ampale *sapaaya*. Baruya is *wapaaya* and Kapau is *hope'a sweet potato!* These last three items may be borrowings.

2.162. Phonological and Grammatical Relationships

The following comparisons are written so that Angan languages may be readily compared with typological features of East New Guinea Highlands languages (called Highland languages below), as given in Wurm (1964:80-2).

Like Highland languages, Angan languages have complex supra-segmental systems, usually a combination of pitch and stress. Unlike Highland languages, syllables are complex and initial consonant clusters are common. Prenasalized stops are common in Highland languages; however, in Angan they have been established only in Baruya, though the closely related Simbari may have them also. Alveolar flap (Wurm's apical flap) is common in Highland languages; however, it does not occur in the three largest Angan languages: Kapau, Menya and Yagwoia, though Yagwoia does have a lateral (unflapped). As in Highland languages there are few fricative phonemes. There is only one flat fricative in some Angan languages and the others have none. Most languages have one grooved fricative or affricative: Baruya, Simbari and Kapau have none and Menya has two. One dialect of Ampale has three and another dialect has two. The vowels usually number seven and Highland languages have five or six. Ampale has three front, three central and one back vowel. The other languages have two front, three central and two back vowels.

Similarly to the Highland languages the so-called medial verbs in the Angan languages have different sets of forms when the subject of a following verb is the same and different sets when the subject is different. These verbs often show a rough distinction of tense into future and non-future. The kinds of relationship between a medial verb and a following verb often include sequence and simultaneous actions. Like Highland languages, dual number occurs in all kinds of verbs and also in the personal pronouns. As in Highland languages, usually there is only one subject marker which denotes the second and third person dual subjects, and one the second and third person plural subjects with all kinds of verbs, see Appendices. As in Highland languages, the Angan verbs are quite complex and usually have more suffixes than prefixes. Usually the verb is readily segmented once the morphophonemic rules are known, though some fused suffixes occur. Similar to the Highland languages, the negative is a prefix in Baruya, but may be a prefix or a suffix, or a final particle depending on the tense of the verb in other Angan languages. The negative prefix is often *ma-* or *maa-*. All Angan languages have a division into masculine and feminine. Baruya and Angaataha and possibly other languages have complex gender or noun class systems. The East New Guinea Highlands languages do not have gender and class systems. The Kunimaipen languages do have complex systems of noun class markers, though usually these are separate words. These markers also occur with included clauses. Angan languages usually have obligatory prefixes for possession

with kinship terms, but never with body parts. The Highland languages usually have obligatory possessive prefixes for kinship terms and body parts. The Kunimaipan languages do not have possessive prefixes with these terms.

The structure of a Fore verb as given in Wurm (1964:82) includes negation, object, stem, aspect/tense, actor, mood and is therefore very close to the structure of some verbs in Angan languages. The final mood category in Fore is very similar to Angaataha where mood morphemes are -e indicative and -o interrogative. Fore is the same for both moods (see Scott 1968:55).

2.17. Conclusions

In this paper information and examples of Angan languages were presented. It is hoped that this will be a stimulus and help to those working in these difficult languages. The comparativist should be able to check the sounds and grammar for himself and evaluate the suggestions made here. It is hoped that more Angan languages will be studied in the future and that Dr Fischer's work on Kawacha and Kamasa will soon become available. The Katsiong languages offer excellent scope for study of multilingualism, and contact of languages.

Some Angan languages pair together: Kapau is very similar to Menya, Baruya to Simbari and Ivori to Lohiki. Kapau has fairly high percentages with all Angan languages.

Angaataha is tentatively placed within the family level, but further work will either establish it there or place it as a family of its own. By being less conservative a cognate figure of 30% was made with Kapau.

It is expected that some languages will have higher cognate percentages after further study. Menya will rise a little, Angaataha more, and Kawacha, Kamasa, Ankave, Ivori and Lohiki most. Generally speaking, Ampale or Yagwoia is the link between Kapau and Baruya-Simbari. Menya or Yagwoia is the link between Kapau and Kawacha-Kamasa-Ampale. Ankave is the link between Kapau and Ivori-Lohiki.

More work on Menya and Yagwoia should relate the New Guinea Angan languages even more while additional work on the Gulf Angan languages will undoubtedly reveal similarities between them. Following this Ankave should then link the Gulf languages closely to the other Angan languages.

The Angan languages are distantly related by cognates to the East New Guinea Highlands languages and the Kunimaipan languages. There is a somewhat closer relationship through grammar and also some through phonology.

APPENDIX A

Kukukuku and Angan

No one is definitely sure of the origin of the term Kukukuku or why it is resented by those so designated. Simpson (1953:8) states that the term was given by Motuan traders. He then (p.10) says that the name comes from kokokoko, the Motu word for the cassowary. He links it with the cassowary bones worn by most Angan people at their waist. Sinclair (1966:7), also gives this explanation. Others have linked it with the cassowary feather head band. Capell (1962:139), says "...Kukukuku ... being really a somewhat insulting Motu appellation for the bush people in general." Zimmer (1969:85, but referring to 1925) says: "...Kukukukus, which is a scornful term meaning bush natives." Hides (1935) says, "It is most probably derived from the Motuan word Kukuku, or the Koitapuan word Kuku, both derogatory terms." Others suggest that the Kukukuku language may have a lot of k's in it, and the name was invented in a mocking description of the people - "those peasants who talk like kukukukukuku." This is likely only conjecture, but Kapau does have a lot of k's. Souter (1964:98) suggests from unknown sources that the word "was invented by coastal people in imitation of the outlandish languages spoken by little bowmen ..." H.A. Brown (personal communication) thinks that Kukukuku means *bushman* in some coastal language.

See Fisher (1968:25-29) for a good discussion of the term Kukukuku. On page 34 he states there is no other term known by the people and acceptable to them. The Yaguya do not object to Kukukuku.

Hides says that the Movlavi people (Toaripi) call Anga people Iarima and I have noted that the Orocolo and Vailala people call them Maihiri. Therefore the term was probably introduced through Hiri Motu. I imagine it was originally pronounced kukukuku and not kukakuka.

The term Kukukuku has been believed to be an offensive term in one of the Angan languages, perhaps meaning homosexualist. I consider that this has not been established. The most likely explanation is that they have been called "so-and-so Kukukuku" for so long that they hate the term.

Hides states that the term was first applied to the "original nomads of the hills and lowlands between the Aravi (Ailavi or Aiv Avi) and Vailala." Besides other groups who are definitely Anga people he says the term was also applied to tribes of semi-nomadic nature on the upper Purari River, people who must be Pawaians. Christian (1932) appears to

call Pawaians "...Menada Kukukuku." These are the only references that I have found where non-Anga people are called Kukukuku. All word lists, labelled Kukukuku, from the Annual Reports are Angan.

The term Anga was chosen after a fruitless search to find a name that all the people would accept. Only Angaataha has a name for all the people speaking that language. I do not regret the choice of the term Anga, though semi-foreign names are beset with problems. Anga, pronounced *aanga* in most languages, is the term meaning *house* or *village* in all Angan languages. My reconstruction of this term is **aanga*. The variation in pronunciation to *aangga* is caused by the addition of a morpheme *-ka* (noun class marker). The only Angan name for a whole language, Angaataha, is based on the root *anga*. The Baruya use the term in compounds to denote 'local' things in contrast to foreign things. The few people from other areas who have heard the new term reacted favourably to it.

Dr D.C. Gajdusek of the National Institutes of Health U.S.A. and those working with him have also adopted the term Anga. Ivan Mbaginta'o, a protégé of Dr Gajdusek, has written a paper (Mbaginta'o 1971) on his own Simbari people entitled "*The Anga Initiations*".

Gajdusek and Fetchko (1971) is a bibliography of the Anga people and their languages.

Note, however, the Kovio term *ango* for *ground* may also be applied to a section of a village. Dialects of Atzera of the Markham Valley have a similar word for *house* ranging from *ungar* (Amari village), *ongar* (Onga village) and *angar* (Sifu village). This weakens my use of Anga, but other Austronesian languages are not similar so I suggest the continuing use of Anga to replace Kukukuku.

APPENDIX B

Kapau Subject Person Suffixes

	(n)	(n)2	(m)1	(m)2	(a)1	(a)2	(a)3	(mao)
1s	-a	-a	-m	-m	-a	-a	-qa	-m
2s	-n	-i	-t	-n	-a	-knga	-a	-a
3s	-i	-i	-a	-a	-a	-a	-qa	-o
1d	-o	-o	-i...o	-aa	-o	-o	-qo	-i
2 3d	-i	-i	-hi	-hi	-iya	-iya	-iya	-hi
1p	-o	-o	-aa...o	-aa	-o	-o	-qo	-oaa
2 3p	-a	-a	-hu	-hu	-uwa	-uwa	-uwa	-hu
Number of contrasts	(4)	(3)	(7)	(6)	(4)	(5)	(5)	(7)

APPENDIX C

Menya Subject Suffixes

	Near Future	Present	Near Past
1s	-im	-a	-aqe or -e
2s	-it (in)	-in	-ingi
3s	-a(n)	-i	-aqe
1d	-e(n)	-we	-we
2 3d	-iji(n)	-in	-iyi
1p	-aa(n)	-wo	-oqwe
2 3p	-ip (in)	-a	-uwi
	(7)	(6)	(7)

APPENDIX D

Baruya Subject Person Suffixes

	Com- plete	Incom- plete	Near Past	Regular Past	Far Past	Desider- ative
<i>I</i>	-ano	-eno	-eno	-eno	-yaano	-imo
<i>you</i>	-aano	-ino	-ino	-ino	-yeno	-no/-ko/-yo
<i>he</i>	-ako	-iko	-iko	-ako	-yaako	-ano
<i>we two</i>	-olo	-olo	-olo	-olo	-yaawolo	-ako
<i>you two</i>	-aalo	-ilo	-ilo	-ilo	-yelo	-yilo
<i>they two</i>	-aalo	-ilo	-ilo	-ilo	-yelo	-yiko
<i>we</i>	-ono	-ono	-ono	-ono	-yaawono	-aano
<i>you all</i>	-aawo	-awo	-aawo	-ewo	-yaawo	-yilo
<i>they</i>	-aawo	-awo	-aawo	-ewo	-yaawo	-ipiko
	(7)	(7)	(7)	(7)	(7)	(8)

(Appendix D cont'd)

	Habitual	Subjunctive	Dep Desid.	Dep. Future	Simultan. Non-Future
<i>I</i>	-ino	-iwɪ (no)	-imo	-mu	(minus w)
<i>you</i>	-ino	-ino	-imo	-gɪ	-gɪ
<i>he</i>	-ano	-ano	-ano	-o	-(sɪ)
<i>we two</i>	-ako	-ako	-ako	-kwɔiqɪ	-kwɔiqɪ
<i>you two</i>	-iko	-yɪko	-yɪko	-kɪ	-kɪ
<i>they two</i>	-iko	-yɪko	-yɪko	-kɪ	-kɪ
<i>we</i>	-aano	-aano	-aano	-aa	-o
<i>you all</i>	-ivɪko	-ipɪ (no)	-ipɪko	-pɪ	-pɪ
<i>they</i>	-ivɪko	-ipɪ (no)	-ipɪko	-pɪ	-pɪ
	(6)	(7)	(6)	(7)	(7)

APPENDIX E

Ampale Subject Suffixes

	Basic	Imper- ative	Pronib- itive	Subjunc- tive	Subjunctive Conditional
<i>I</i>	-ena	-uma	-me	-m	-i'mt-ente-zi
<i>you</i>	-ina	-ya	-ta	-t	-ente-zi
<i>he</i>	-aha	-ana	-ra	-a	-ente-zi
<i>we two</i>	-hwaaya	-aaha	-ra	-aah	-entaa-zi
<i>you two</i>	-ziya	-nya	-zira	-zit	-ente-zi
<i>they two</i>	-ziya	-iya	-zira	-zit	-ente-zi
<i>we</i>	-hwana	-aana	-ra	-aa	-entaa-zi
<i>you all</i>	-ava	-mna	-ta	-vit	-ivit-ente-zi
<i>they all</i>	-ava	-uve	-ta	-vit	-ivit-ente-zi
Number of Contrasts	(7)	(9)	(4)	(7)	(4)

(Appendix E cont'd)

	Different Subject Non-future	Same Subject Non-future	Dependent Future	Co-ordinate Future
<i>I</i>	-a	-ansi	-u'ma	-ime
<i>you</i>	-ina	-ansi	-ahazi	-iza
<i>he</i>	-i	-anta	-uhwazi	-aza
<i>we two</i>	-uhwaaya	-antaae	-uhwaazi	-aaza
<i>you two</i>	-i	-ansi	-ahazizi	-iza
<i>they two</i>	-i	-ansi	-ahazizi	-iza
<i>we</i>	-uhwane	-antane	-uhwaazi	-aaza
<i>you all</i>	-avi	-antivi	-usi	-ivisaza
<i>they</i>	-avi	-antivi	-usi	-ivisaza
Number of Contrasts	(6)	(5)	(6)	(5)

APPENDIX F

Angaataha Independent Subject Person Suffixes

Imperfect	Past	Future	Desiderative	Imperative
-t-aa-y-o	-o	-t-o	-tan-t-iy-o	-taano
-p-a-i-se	-i-se	-ta-i-se	-taa-p-ai-se	-pe or -me
-t-a-i-se	-i-se	-ta-i-se	-tan-t-ai-se	-ne
-l-aa-y-o	-o	-t-o	-ti'aaw-iy-o	-ti'aawo
-m-a-i-se	-i-se	-ta-i-se	-taati-m-ai-se	-pise or -mise
-m-a-i-se	-i-se	-ta-i-se	-taati-m-ai-se	-pise or -mise
-l-aa-y-o	-o	-t-o	-ti'aaw-iy-o	-ti'aawo
-w-aa-y-opo	-opo	-t-aapo	-taati-w-iy-opo	-pise or -wise
-w-aa-y-opo	-opo	-t-aapo	-taati-w-iy-opo	-pise or -wise

(Appendix F cont'd)

Simultaneous Non-future		Simultaneous Future		Basic Medial	Loose Antecedent	Continuative
-onɪ	-ʼɪ	-anɪ	-ʼɪ	-tɪ	-t-a-tɪ	-mpɪ-tɪ
-ɪnɪ	-ʼɪ	-amɪ	-ʼɪ	-pɪ	-p-a-pɪ	-mpɪ-pɪ
-i or -sɪ	-ʼɪ	-onɪ	-ʼɪ	-tɪ	-t-a-tɪ	-insa-tɪ
-onɪ	-ʼɪ	-ai	-ʼɪ	-ʼɪ	-ʼ-a-wɪ	-insa-ʼɪ
-i or -sɪ	-ʼɪ	-ai	-ʼɪ	-Mɪ	-M-a-mɪ	-mpɪ-mɪ
-i or -sɪ	-ʼɪ	-ai	-ʼɪ	-Mɪ	-M-a-mɪ	-mpɪ-mɪ
-onɪ	-ʼɪ	-ai	-ʼɪ	-waa(tɪ)	-waat-a-tɪ	-ins-aatɪ
-awɪ	-ʼɪ	-ai	-ʼɪ	-Wɪ	-W-a-wɪ	-mpɪ-wɪ
-awɪ	-ʼɪ	-ai	-ʼɪ	-Wɪ	-W-a-wɪ	-mpɪ-wɪ
(4)		(4)		(6)	(6)	(6)

Secondary Imperfect	Contra-result	Contrary Fact
-t-aa-tɪ	-tɪ-panɪ	-taanɪ
-p-aa-pɪ	-tainɪ	-tainɪ
-t-aa-tɪ	-taisɪ	-tai
-ʼ-aa-wɪ	-ʼɪ-panɪ	-taanɪ
-m-aa-mɪ	-taisɪ	-tai
-m-aa-mɪ	-taisɪ	-tai
-ʼ-aa-wɪ	-(w)aanɪ-panɪ	-taanɪ
-w-aa-wɪ	-taawɪ	-taawɪ
-w-aa-wɪ	-taawɪ	-taawɪ
(6)	(6)	(4)

APPENDIX G

Hans Fischer's book *Negwa* 1968

This book is mainly concerned with the anthropology of the Yagwoia people, but the author also gives some information about languages. The translation from German is by Edmund Fabian, S.I.L. I received the book after the first draft of this chapter was written.

Notes on the phonology of Yaguya (Yagwoia), for the purposes of the book, are given on pages 21-22. There are many Yaguya words throughout the book. Fischer did not record verb forms, which were complex.

There is a table on 16 words on page 33. This table contains lists of the Yaguya dialect of Yagwoia, 2 lists from the Aiwomba dialect and one from the Wojokeso dialect of Ampale, the Kawacha language, the Kamasa language, the Angaataha language, the Yamnaqanja dialect of Menya, the Menya language and the Kapau language. There is another table of a further 50 words on page 42-43 of the Yaguya, Kawacha and Ampale languages.

On page 32 Fischer states that he collected a word list of 212 items plus words for objects of the material culture in the Kawacha language. However aside from words denoting the material culture, he recorded only a few words in the Angaataha, Kamasa and Menya languages.

On page 34 he comments on an earlier map of mine where I had incorrectly shown Aiwomba and Wajakeso as separate languages. He also gives percentages between different dialects and languages. I consider these figures to be low for the dialect of Ampale (78%) and high between other languages, except Yaguya and Wojokeso (60%). Probably the mean between his and my figures are closer to being the correct ones for the languages. His figures are: Ampale (Aiwomba) - Kawacha 71%, Ampale - Yaguya 73%, Yaguya - Kawacha 70%, and Kawacha - Ampale (Wojokeso) 68%. The people speaking the Ampale dialects understand each other quite well, but this is not the case between any of the languages. He also mentions that Angaataha, (his Natsa), is quite different from the other languages.

According to Fischer (1968:36) many of the Talacha clan of the Kawacha were absorbed by intermarriage and adoption (?) by the southern group of the Yaguya. There were 120 people at 'Katsiong' at the census in May 1971. Fischer (1968:37) says that in 1965 Katsiong was divided into Manoga and Kazavarepa to the south west. I was given the name Karunja for the first hamlet. Pilots flying over the area report three hamlets in the area now. Fischer says that only 10 men were left of the whole

Kawacha tribe. On this basis I estimate approximately 30 people in Kawacha. Fischer says there were then only 21 Yagwoia men, making a total of perhaps 42 people. These totals are indefinite as the wives could belong to different languages. Fischer says one Aiwomba (Ampale) man also lived at Katsiong. The rest of the people, 15 families, lived in Kazavarepa. One Angaataha man said 5-6 men of the Awaawaan(ise) clan lived at Katsiong, perhaps making 15 Angattaha people. I was given the names of 6 Kamasa men and so estimate 18 people. The remainder are Menya people, perhaps 12 people.

Dr Fischer doubtless has full particulars of all the Katsiong people and to which groups they belong.

As he used the Yagwoia names for the different groups the following table shows the various names used in my spelling and his.

Alternate Language Names used by Fischer	
Yagwoia	Jeghuje, (Jaola)
Kawacha	Katje
Kamasa	Inetje, Kwamogh
Angaataha	Natsa
Ampale	Banir (tribes Hjaltje, Hilemije, Khanggotje, Wotjemije)
Menya	Jamnaghantje, Kwatala, Aghadghe (tribe)

APPENDIX H

LEGEND

In this section are listed alphabetically all languages mentioned in the paper. The language family for each language is given in parentheses after the language name. Any alternate names and their sources are then given.

- AHIAVE (Eleman) Vailala (Capell 1962); Haura (Franklin 1970) Haura is the Subtribe in the south, Ahiave, a subtribe in the north.
- AMPALE (Angan) Banir (Map 7, Capell 1962); Sesere (Capell 1962); Wajokeso-Ampale (Lloyd & Healey 1970); Wojokeso (alternate spelling); Aiwomba (central dialect); Yaponya (south dialect); various tribe names (Fischer 1968).
- ANGAATAHA (Angan) Langimar (Hooley & McElhanon 1970, Lloyd & Healey 1970); Natsa (Fischer 1968).
- ANKAVE (Angan) Yeripa (Lloyd & Healey 1970, Franklin 1968); Kwingi (by Kapau speakers).
- AWA (East family of East New Guinea Highlands Stock).
- BARUYA (Angan) Barua (Capell 1962); Wantakia (Capell 1962); Barua-Wantakia (Lloyd & Healey 1970); Yipma (by Baruya speakers); several dialects (see 2.6.).
- BIANGAI (Kunimaipen).
- FORE (East Central family of East New Guinea Highlands Stock).
- GIMI (East Central family of East New Guinea Highlands Stock).
- IVORI (Angan) Agama or Yarepa (Franklin 1970); Tigwaata (by the Kapau speakers); also Tewe or Dewe.
- KAMASA (Angan) Chimbi; Inecha or Kwamaqa (Fischer 1968).
- KAPAU (Angan) Kamia (Gulf District); Hamtai (New Tribes Mission); Kaviropi (Capell 1962); Kukukuku (Various Annual Reports).
- KAWACHA (Angan) Kacha by Yagwoia speakers (Fischer 1968).
- KENATI (Azianan) Ganati (Wurm 1964); Asena or Aziana (Government).
- KOVIO (Central Papuan of Austronesian).

KUNIMAIPA (Kunimaipan).

LOHIKI (Angan) Maiheari (AR 1912-13); Maihiri (Zimmer 1969); Obi (Capell 1962); Haagoya (by the Kapau).

MARALINAN (Azeran) Watut (Capell 1962); Baboaf (Salzner 1960); Silisili (Hooley 1970).

MENYA (Angan) Menye (alternate spelling); various tribe names (Sinclair 1966 and Fischer 1968).

OPAU (Eleman).

OWENA (East Family of East New Guinea Highlands Stock); Waisera or Waisara (Wurm 1964).

PAWAIA (Pawaian).

SIMBARI (Angan).

TAIAK (Buangan) Taiek (Capell 1962); Katumene (Salzner 1960); Sambio (Hooley 1970).

TAIRORA (East Family of East New Guinea Highlands Stock).

TOARIPI (Eleman) Moaripi (Ray 1907); Lepu (Ray 1913-14); Motumotu (Chalmers 1897).

WAFFA (East Family of East New Guinea Highlands Stock).

WELI (Kunimaipan) Ono (Salzner 1960).

YAGWOIA (Angan) Menyamy (Capell 1962); Kwaplalim (Lutheran Mission); Yeghuye (Capell 1962); Yagoia or Yakoia (alternate spelling).

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- 1916-17 p.65 Tribes on Main Range West of Mount Albert Edward.
Kuefa, Kunimipa, Biarua, Sini, Fuyuge, Kukukuku (Kapau)
- 1917-18 p.117 Kukukuku village A-sha-vi. Nepa Lakekama Goldfields
(Kapau). Franklin (1968) incorrectly lists the Arabi R.
as Oreba R.
- 1917-18 p.95a Kukukuku, village of Madinava (Kapau)
- 1917-18 p.95b Mai-hea-ri tribe, villages Karauwi, Papikava,
Aroawa Hawoiu. (Lohiki)

Word Lists (mainly S.I.L. Survey Word List)

Ahiave (K. Franklin); Ampale (West & West, N. Bourne);
 Angaataha (R. Huisman); Ankave (R. Lloyd); Awa (A. & R.
 Loving); Baruya (J. & R. Lloyd); Biangai (M. & R. Dubert);
 Fore (G. Scott); Gimi (N. & S. McBride); Ivori (K.
 Franklin, R. Lloyd); Kamasa (R. Lloyd, D. West); Kapau
 (T. Palmer, J. Fitzgerald); Kawacha (R. Brett, R. Lloyd);
 Kenati (L. Dodd); Kovio (H. A. Brown); Kunimaipa
 (A. Pence, D. Bjorkman); Lohiki (A. Capell, K. Franklin,
 R. Lloyd); Maralinan (B. Hooley); Menya (J. Strelan,
 J. Lloyd); Opau (K. Franklin); Owena (L. Dodd, A. Vincent);
 Pawaia (D. Trefry, J. Cribb); Simbari (D. Best); Tairora
 (A. Vincent); Talak (B. Hooley); Toaripi (H. A. Brown);
 Waffa (J. Hotz, M. Stringer); Welu (M. Boxwell); Yagwoia
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CHAPTER 3

THE TEBERAN LANGUAGE FAMILY

George E. MacDonald

3.1. The Area, People and Languages

It may be of benefit to consider the geographic and population situation of the Teberan Family and some of its neighbors before discussing the family itself.

Franklin (1968:25) delineated the area covered by the Teberan family as extending "...from Karimui in the Chimbu District south to the headwaters of the Era River, then west to the junction of the Sirebi and Kikori Rivers, and then finally northwards to the Kerabi valley (near the southeastern border of the Southern Highlands District)...". This description is accurate except that only the Sirebi headwaters area should be included, and not the complete Sirebi-Kikori junction area. From the Kerabi valley the family border is constituted by the ridges overshadowing the northern bank of the Erave River as it goes eastward to join the Tua River, which forms the border curving northward to include the Bomai area, thence back to Karimui. (See Map 3 p.121).

Limiting ourselves to a north-south area bounded roughly on the east by the Purari River (where it runs south) and on the west by the Kikori-Sirebi River system, the area may be divided into:

1. a belt of 12,000 population along the coast and inland to about 25 miles, with a density of 7.66 per square mile;
2. a second belt approximately 25 miles north to south, with almost zero population, comprising the southern few miles of the Pepike Census Division, the southern half of the Upper Purari C.D., and the north halves of the Kikori Kairi, Gope and Era C.D.s;
3. a third belt of about 25 miles encompassing the bulk of the Polopas and many of the southern Pawaians, but still of relatively light

population density (1.67 per sq. mile) and consisting of the northern parts of the Upper Purari C.D. and the former part of Pepike C.D. now in the Kerabi C.D. of the Kagua Sub-District of the Southern Highlands District;

4. north of this the edge of the Highlands, with a rise in population density to 8.21 per sq. mile in the Karimui-Bomai areas and 32 per sq. mile in the Pangia area, before reaching the Highlands, with still higher figures.

It is thus seen that south of the Polopas, in particular, there is a no man's land which, as also demonstrated by lexicostatistical figures presented below, effectively separates the Polopas from the Kairi language group.

The spelling of village names will follow government Village Directory spellings, with alternate spellings in parentheses identified as to the author.

The Teberan Language Family consists of two languages: Daribi (Mikaru) and Polopa (Foraba). It was previously labelled the "Mikaruan Family" by Franklin (1968:19,25). The change in the family designation has been made because Lake Tebera is somewhat more central than the Daribi area geographically, and because Lake Tebera serves as a convenient reference point when locating the family on a map. As noted below, Mikaru as a language name is being replaced by Daribi.

The Daribis, as may be seen from Map 3 (p. 121), inhabit the Karimui-Bomai area plus three villages along the Erave River. The remainder of the Teberan Family area as described above is occupied by the speakers of Polopa.

A word regarding some of the language names is in order. Since Wurm (1961:20) had already published using the designation "Mikaru" for the language spoken by the people living adjacent to Mt. Karimui to the north and west, I followed his lead in the data supplied to Eunice Pike (1964), although aware that the people spoke of themselves and their language as Daribi.¹ Wagner's statement (1967:4) that "The name Mikaru ... has been retained by the Summer Institute of Linguistics and by other linguists, including S.A. Wurm,..." may be chronologically misleading, i.e., one might think Wurm followed my lead. Wagner later corrects this situation (1969:56) by noting "The term Mikaru has been retained as a label for the Daribi language by Wurm (1964) and the Summer Institute of Linguistics." This 1964 citation apparently overlooks Wurm's earlier use of Mikaru in a report on his 1958-59 survey

of the Highlands districts (Wurm 1961:20), although Wagner lists the report in his bibliography. Glasse used the term *Daribi* in writing about leprosy at Karimui (1965:95).

Since Wagner (1967, 1969, 1970) and Hughes (1969) have given the designation *Daribi* wider currency, and since it is the term the people themselves use, it is used in this chapter instead of *Mikaru*.² At times the terms "*Karimui Daribi*" and "*Erave Daribi*" will be used, to distinguish the main body of *Daribi* speakers, living on the Karimui plateau, from the speakers living along the Erave River in the villages of Kele, Saki, and Suani.

This distinction conflicts with Wagner's view (1970:91) that *Foraba* is the primary language spoken at "*Soari*", if *Suani* and *Soari* are variations on the one name. During the 1970 survey I helicoptered into *Suani* and was told that their language is *Daribi* and that the "*Kewah*" speakers I was seeking lived further west at *Wopasali*. Wagner recognises (1970:91) that *Kewah* is the *Daribi* term for the *Foraba* people and language. If the *Suani* residences were *Foraba* themselves, they would not have sent me on to *Wopasali*. (My departure after a brief stay disappointed them, so it is unlikely they were trying to deceive me about their identity.)

As a further, independent, check on this matter I requested an administration medical officer (Dr. John McMahon) going into the area in December 1971, to ask the *Suani* people what their primary language is. He later reported that they claimed it is *Daribi*.

On April 4, 1972, I visited (by helicopter) the *Polopa* villages at Lake Tebera, Tobare, Pupitau (twice), and stopped at Kele on the Erave River. There I was told that *Daribi* is the language of Kele, Saki and *Suani*, Kele being the border between *Daribi* and the *Kewah* spoken at *Wopasali*, Pupitau and other villages. (The language at Lake Tebera was called *Kena*, which is in reality *Gena*, Wagner's *Genaa*, the Teberans' name for the lake itself). My informant, a male in his twenties, claimed ability to understand the *Wopasali* language but not to speak it. He stated that *Foraba* is the language at *Odani*. Wagner (1970:91, footnote 2) says his informants at "...*Soari* identified themselves as *Foraba*, *Odani*, or *Oda'ani*." It would appear that either (a) *Soari* and *Suani* are different villages, which is unlikely, or (b) Wagner's informants were visitors only and were not full residents of *Suani*. Undoubtedly the people of Kele, Saki and *Suani* are the "*Urubidi*", a group probably of phratry size living to the southwest of Mt. Karimui

along the Bore River" (Wagner 1967:4), since Wagner himself (1970:92, map) equates the Bore River with the Erave River.

Ryan (Patrol Report, 1970) noted under "Languages" that what he spells as "Poroba" is spoken at Kele, but under "Dialects" Kele and Suani are listed as speaking "Burupo". In Daribi Buru-po means literally *place-talk* or *place-language*, and parallels the Pidgin term *tokples* except that the descriptive morpheme precedes the head noun, following Daribi usage. As mentioned earlier, Foraba is understood at Kele, and is probably spoken to some degree there and at Saki and Suani. But Daribi is the primary language of these three villages. In all likelihood government interpreters from Erave would speak Poroba but not Daribi, and the Kele-Saki-Suani people would have to use Poroba with them. The knowledge of Pidgin at these places is about as advanced as it was at Karimui ten years ago, that is, it is poorly understood and spoken, due to the area's isolation. Police Motu appears to fit the same description.

It is felt necessary to distinguish Erave Daribi from Karimui Daribi at this stage because of several minor differences between the speech of the two areas. At Karimui the suffix -go added to a noun functions as a possessive marker or to make the noun the subject of a verb having an expressed object. At Erave (Kele, Saki and Suani) the morpheme takes the form -yo. In some words Erave-dwellers substitute t where Karimui-dwellers use s, word-initially. Because of their small numbers and their isolation from the bulk of Daribi speakers differences in speech at the Erave villages are to be expected. Further investigation is needed to determine the full extent of the variations.

The name Kewah (Franklin 1968:25) or Kewá (Wagner 1967:6) is used by the Daribi people to refer to the people living to their south (toward Lake Tebera) and to the west and southwest. Eastern Daribi have no known contact with the Kewah people, but the western villages of Kalabai, Suani, Kele and Saki (at least) intermarry with the Kewahs.³ The term Kewah does not appear to function as a term for *stranger*, *foreigner* as it does in languages further west.

In August 1966, I attempted to learn more about the identity of the Kewah language and people, and while staying in the western Daribi village of Masi I secured a word list from a woman of Gena village (Wagner's Genaa, 1970:91) on Lake Tebera. I was not aware at that time of the exact location of the village, knowing only that it was in a general southwesterly direction. She had married a Daribi man, and they lived in Daribi territory, probably at or near Kalabai (southwest of

Masi). The man's older sister had married into a Tebera group, and as a boy he had accompanied her and was raised as a bilingual. On the basis of this word list Franklin (1968:25) included Kewah in his Mikaruan family. In order to distinguish this name from the Southern Highlands Kewa (/kéwa/), Franklin chose to spell it Kewah.

It is now clear that my location of the language as "...somewhere in the vicinity of the junction of the Tua and Erave (upper Purari) Rivers" (Franklin, loc. cit.) was in error. Because the informant and her husband were so bilingual, it was suspected at the time that the cognacy count based on her word list (45%) might be unduly high. The survey findings verified this suspicion.

As a result of the survey we now know that Kewah is actually the name used by the people at Lake Tebera and some other parts of the Polopa area for their language. They pronounce the name /k^hewá/, with the stress/pitch on the last syllable rather than on the first as with Southern Highlands Kewa, and with the first vowel /e/, compared to Kewa's /e/. Some villages, while aware of the name Kewah, seem to prefer the term Nqai as the name of their language. This is true in Boro, Tobare and Pupitau, and the latter attribute it also to Urupio and Sirigi/Siligi.⁴ Others prefer the name Foropa or Poroba, from which Franklin gets Polopa.

The bulk of the Daribi have as their nearest and most intimate neighbors the group known in print primarily as the speakers of Pawaia/Pawaia (Capell 1954; Wurm 1961, 1962; Pike 1964; Trefry 1969, and others). They designate themselves as "Tɔdɔhwe" (Wagner's "Tɔdawe", 1967:2; Hughes' "Tundawe", 1970:273; Glasse's "Tudawhe", 1965:95). Glasse (loc. cit.) notes that south of Mt. Karimui "...another language group, the Yasa, have small settlements." Actually, Yasa is the Daribi term for the Pawaia people and their language, and the reference to their living south of Mt. Karimui would probably include the village of Gurimatu (pronounced dʒuřimadu by the inhabitants).⁵ Considering the early date (September 1962) at which Glasse did his Karimui fieldwork and the limited local knowledge of Pidgin English then prevailing, his informants' lack of clarity regarding the term Yasa is understandable.

The area inhabited by Pawaia speakers extends southeastward from Karimui as far south as the village of Keka on the Vailala River. The western border is rather indistinct until one reaches the Purari River near Uraru, from whence it follows the river northward to include the Gurimatu area and returns to the eastern slopes of Mt. Karimui. The

larger part of the population lives on the Karimui Plateau.

Capell (1954:58), basing his remarks on information supplied by a geologist, speaks of Pavaia (Pawaia) being a widespread language in the Upper Purari area, and of a different language being found at Songu and Harahu near Mt. Favenc. "The Harahu people number about 5,000. Of the Pavaia-speaking group, the Sira number probably some 2,000. In Lake Tebera there are two island villages of a group known as Mamisu, but those number only about 1,000 altogether...Police Motu is as yet no use in this region."

As a result of the survey we now know that the language spoken at Lake Tebera, Harahu and Songu is Polopa. (Harahu is actually pronounced harahwi, with -hwi being the term for *man, person, people*). Capell's population figures are very high compared to present census tallies. In 1970 there were only 109 people counted at "Harahwi" (the village census book bears the name "Tobare" and this is how it is listed in the Village Directory), and 57 at Lake Tebera. Exact figures for the village of Sera in the Pepike C.D. are not available (I am assuming this is the same as Capell's "Sira"), but Sera and eleven other groups had a combined population in 1968 of only 249. The figure of 2,000 for Sira exceeds the combined total for the Upper Purari Census Division, Gulf District (1,300 in 1968), and the Tura and Pio C.D.s, Chimbu District (97 and 189 in November 1971), which together encompass much of Pawaian territory.

Either there has been a catastrophic loss of population over the last 14 to 18 years, or the 1954 figures were a very rough guess complicated by the absence of an adequately understood lingua franca. Today Police Motu is understood and spoken in varying degrees in the southern Polopa areas and among the Pawaians along the Purari, but its usefulness decreases as one progresses northwestward.

During the course of the survey certain cultural differences were noted between the Daribi and the Polopa peoples. Wagner (1967:18-19) describes and illustrates the Daribi sigibe and kerobe, the double and single story variations of the Quonset-hut type house. A kerobe measures approximately 50 ft. long and 20 ft. wide, with the sigibe somewhat larger. Glasse (1965:96) suggested that the double-storied sigibe may be unique in New Guinea. None were observed among the related Polopas. In both styles females and small children are segregated from the men and older boys; in the sigibe the men have the upper story, in the kerobe they live in the front half of the house, separated from the women by an interior wall.

The Polopas (observed personally at Omo, Suri, Boro, Negebare, Pupitau and Wopasali) favour a different arrangement, with the men and older boys living in a long house and the women and children in small satellite houses by families. Both house sizes feature gable roofs of sago leaves. The Boro men's house appeared to be typical, and was approximately 90 ft. long and 20 ft. wide, with the floor raised about 20 inches from the ground. The roof extended perhaps 10 ft. beyond the end walls to shelter ground-level verandahs where open fires may be built. Guided tours of the Wopasali and Pupitau men's houses revealed full-length center hallways with walled rooms opening onto them from both sides. On a given side of the hallway each adjoining pair of rooms shares a fireplace, necessitating an opening in the partition between them. One or two men sleep in each small room.

Hughes (1969, Plate III) pictures some of the sago-thatched, gable-roofed walled houses at "Genaa" on "Haiduru" island in Lake Tebera. He does not mention segregation of women in his text. At the time of my overnight visit (December 1970) only two houses, on another island to the northeast of Haiduru, were above water and habitable - all the Haiduru houses were submerged to roof-level by a change in the level of the lake. The two habitable houses, obviously temporary, were merely raised platforms sheltered by sago-leaf roofs, occupied by a family and a single man. No segregation of the woman was observed, but because of the flooding the situation may have been abnormal. (Later the village policeman at Wopasali, who had trekked to Lake Tebera a year previously, mentioned to me that at Tebera the men and women live together, in contrast to the custom among other Polopas.) On a return visit to Tebera in April 1972, it was noted that the population, back to its normal size, were living on still a third island, "Hazobao", nearer the northern edge of the lake. The women were apparently segregated this time.

The islands in Lake Tebera are very small, and it is difficult to imagine them ever having housed a population of anything like 1,000.

In spite of the fact that the same basic raw materials are available to the Daribis and the Polopas, each group has its own style in housing, at least partially influenced by the degree of female segregation practiced. Wopasali appeared to represent one end of a continuum regarding segregation. The men's house was surrounded by a fence of rough vertical planks embedded in the ground, over which the women hand food to the resident men and older boys. Although other Polopa

villages featured men's houses, none were observed with a fence as at Wopasali.

Synthesizing the Wopasali man's remark with personal observations, perhaps it could be said that segregation at Tebera is not as rigid as among other Polopas. The construction of a large men's house plus satellite women's houses would certainly crowd the islands. The Karimui Daribis would appear to be at the other end of the continuum, with family members living under one roof but separated horizontally or vertically. The Erave Daribis follow the Polopa custom of separate housing, probably due to their proximity to the Polopas.

The differing general situations of the Daribi and the Foraba (Polopa) people as to physical environment, demography and ecology have been described by Wagner (1970:93), although his Polopa contacts have been limited. However, in the Wopasali-Keba area - the northwestern border of Polopa territory - one is nearing the Highlands and some life features differ from places like Omo in the south, Tebera in the east, and Boro in the center. For example, the Erave River is less navigable from Wopasali westward, and Wopasali and Keba are situated on ridges at approximately 2,500 ft. above sea level instead of down on the banks of the river like Saki and Suani to the east. It would seem that travel by canoe is thus not as important an aspect of life in this part of the Polopa area as elsewhere. Travel on a north-south axis, of course, is of necessity by foot in most of the Polopa country, as the majority of the rivers flow eastward, paralleling the limestone ridges.

Hughes (1970:273, footnote) mentions that "...relocation of settlement is characteristic of the [Lower Erave] area". As we have seen earlier, this area is Daribi rather than Polopa, but this tendency to shift differs from the Karimui Daribi pattern of retaining their relatively fixed village locations while shifting garden sites nearby, since they are not obliged to follow the prevailing sago supply like their western cousins.

Having helicoptered over nearly the entire Polopa area, my general impression is that many Polopa villages, particularly those in the north, are relatively fixed as to site. Many are situated on ridges, with gardens in intervening valleys, and tend to be larger than the southern villages, increasing the difficulty of shifting. By contrast, the southern villages are smaller, tend to be located near larger streams, and are probably more dependent on sago than the northern people who live at higher altitudes further from the delta swamps.

It was noted that the use of betel-nut, not in vogue among the Karimui Daribi although it grows there, was practiced in some Polopa villages. In contrast to other areas of New Guinea where the betel-lime mixture is rather thin and is expectorated anywhere, Polopas chew a very thick mixture, which is emptied into a length of bamboo shared by a number of people. Disposal after that is still unknown.

Polopas and Erave Daribis, particularly women, were observed wearing bark capes, as did their Karimui neighbors more commonly ten years ago. The advent of a few trade stores at Karimui has changed the custom, but there are no known trade stores inside Polopa territory.

The villages of Pupitau, Waraga and their near neighbors appear to be the most densely populated Polopa area, and probably constitute the customary "center" of the language area.

3.2. Lexicostatistical Overview

The following percentage relationships are based on 89 items from the Swadesh 100 list, and demonstrate among other things that Daribi, Polopa and Pawaia are not closely related to the languages to the south and west. Wurm (1964:80) has already shown that Daribi and Pawaia are not closely related to the East New Guinea Highlands Stock, to their north, nor to Witu to the west. Lloyd, in Chapter 2 of this volume, demonstrates that Pawaia is not related to the Angan Family to the east. Pawaia is included in these comparisons in an effort to further delineate its position relative to its neighbors.

Table 1

Daribi (DAR)									
35	Polopa (POL)								
10	16	Pawaia (PAW)							
8	8	2	Witu (WIT)						
8	7	7	3	Saniyo (SAN)					
7	13	5	12	6	Samberigi (SAM)				
6	11	4	11	1	86	Tiri (TIR)			
5	9	7	4	1	6	3	Kairi (KAI)		
5	14	7	3	7	11	7	4	Foi (FOI)	
3	4	4	7	3	1	0	5	3	Gibaio (GIB)
3	6	6	6	5	2	1	7	5	70 Anigibi (ANI)

In determining these percentages 12 Polopa lists (see Table 4) and 3 Pawaia lists (Karimui, Uraru and Koni) were used. The *average* relationships to each of the other languages is represented in Table 1. The same procedure was used in Tables 2 and 3 below.

Table 2

Lexicostatistical comparisons based on 22 assumed cultural items:

Daribi (DAR)

39	Polopa (POL)								
19	12	Pawaia (PAW)							
14	9	12	Witu (WIT)						
7	9	7	8	Kairi (KAI)					
7	13	19	21	17	Foi (FOI)				
7	10	5	15	0	7	Samberigi (SAM)			
7	12	11	21	0	13	79	Tiri (TIR)		
6	8	7	0	8	7	7	13	Anigibi (ANI)	
5	1	3	7	0	7	0	0	6	Saniyo (SAN)
0	4	13	7	23	7	7	20	56	6 Gibaio (GIB)

Table 3

Lexicostatistical comparisons based on the full 231-item list:

Daribi (DAR)

29	Polopa (POL)								
9	12	Pawaia (PAW)							
7	8	3	Witu (WIT)						
6	10	7	4	Kairi (KAI)					
5	12	7	6	5	Foi (FOI)				
5	11	4	11	3	7	Samberigi (SAM)			
4	11	5	12	2	8	86	Tiri (TIR)		
3	4	4	3	1	5	5	3	Saniyo (SAN)	
2	4	5	5	6	4	2	3	4	Gibaio (GIB)
2	5	5	3	4	4	3	3	5	65 Anigibi (ANI)

Table 4

Comparisons of twelve Polopa wordlists:

Pedege (PED)

86	Trabedesare (TRA)								
84	83	Aurel (AUR)							
74	76	65	Waraga (WAR)						
72	79	73	66	Suri G. (SUG)					
70	76	66	55	64	Tebera (TEB)				
70	75	69	65	69	65	Negebare (NEG)			
69	78	73	77	75	71	75	Wopasali (WOP)		
67	71	70	68	73	59	73	74	Sopese (SOP)	
59	76	66	66	69	60	69	81	69	Boro (BOR)
59	69	58	57	69	52	58	67	65	59 Suri K. (SUK)
57	68	54	57	60	46	56	60	61	52 69 Gaiyamo (GAI)

Suri G. and Suri K. represent lists taken, respectively, by MacDonald at Suri village and by Franklin from a pupil from Suri. The lack of harmony between the two lists is probably due to the degree of familiarity with the languages, i.e. Franklin was recording a Teberan language for the first time. The relationships above are based on 89 items from the Swadesh 100 list.

3.3. Daribi

3.31. Phonology

The segmental phonemes of Daribi are displayed below.

Consonants:

p	t	k
p ^h	t ^h	k ^h
	s	h
m	n	
	l	
w	y	

The stop series were originally interpreted as b, d, g, and p^h, t^h, k^h, with the difference thought to have been in voicing versus voicelessness, and with some tendency toward a loss of voicing. More precise study, using a prosodies machine developed by Dr Charles Peck at Ukarumpa, has shown the difference to be the lack versus the presence

of aspiration. There is a tendency for the unaspirated forms to occur intervocalically and the aspirated forms initially, although at times they are difficult to distinguish aurally. In the Daribi examples to follow, p, t, and k are written as phonemic b, d, and g, p^h, t^h, and k^h as p, t, k, and medial s as z.

No consonant clusters appear in the language, unless labialization is interpreted as a sequence of two consonants.

Vowels: i, u, e, o, a.

Nasalized counterparts occur for each vowel. Each oral vowel in isolation constitutes a word, but of the nasalized vowels only ɔ̃ *taro* does this.

The following allophones occur: i fluctuates with ī; e fluctuates with ē; in a few instances ɔ̃ occurs as an allophone of ɔ. The vowels i and e are sometimes difficult to distinguish word finally, as are o and u. Clusters of up to four vowels occur.

Daribi exhibits basically only two syllable patterns, V and CV. If labialization is interpreted as a sequence of two consonants, a third (less frequent) pattern of CCV emerges.

Pike (1964:124) noted that "Both when in isolation and within a sentence there is a tendency for words to take the same length of time. This causes a vowel in a word with one syllable to be long, whereas the same vowel in a word with several syllables will be short." This feature of Daribi (and other languages) she termed "word-timing".

Daribi also features a syllable-tone system with high and low tones, carrying a low functional load.

3.32. Grammar

A number of features of Daribi grammar are presented below in order that they may be compared where possible with Polopa and Pawaia. Only limited Polopa grammatical data is available on the basis of the material gathered on the survey. It is expected that further study of Polopa will reveal additional similarities to Daribi structure.⁶

In contrast to many Highlands languages, Daribi is not characterized by complicated sentence-medial verb forms. Inflection is by suffixation only, but person and number are indicated only rarely. Pronouns are free forms. Wurm (1964:89) noted that "...the entire negative marker has the form *me-* + *-e* which is at variance with the forms found in it [the E.N.G.H. Stock]." Actually *me* means *another*, *more*, *also* and is not involved as a prefix or clitic in constructing a negative expression.

The verbal negative marker is *-be*, e.g., *Te bidi eno su-be*, literally *That man I see-negative*, or *I didn't see that man*.

Daribi verbs are morphologically more complex than any other feature of the language. Verb stem vowels frequently change when the verb are affixed. The verbs *come* and *go* may each appear as the final verb in a compound construction expressing purpose, with the morpheme *-gi-* joining it to the initial verb. Thus *I went to see* is *Ena su-gi-padi*, literally *I see-purpose-went*. The initial verb appears as a stem only, with the final verb taking all the inflection.

The various types of Daribi imperatives all involve the suffix *-a*, which may only be followed by the suffixes *-o* (vocative) and *-we* (question marker, a final order suffix). Number appears in the simple imperative forms: *az-a-o*, *come-imperative-vocative* versus *az-i-a-o*, *come-plural-imperative-vocative*.

Present tense/incomplete aspect is indicated by *-bo*. Customary or habitual action is denoted by the use of *-bo* followed by *-da*, which when used as a free morpheme means *is*. Thus *We customarily get wives there* is *Da-go we a-de sa-bo-da*, literally *We-subject of verb (with expressed object) women there-at get-incomplete-are*.

Adverbs precede the verb they modify, e.g., *podo padi*, *quickly went*.

Nouns exhibit no distinction in form for singular versus plural, and there are no "obligatorily possessed" nouns. The question marker *-we* and prepositional clitics may be suffixed to nouns. A third noun suffix is *-go*, mentioned on page of this chapter, which functions as a possessive marker or marks a noun as the subject of a verb with an expressed object. This second function parallels the *-go* suffix in SET B of the personal pronouns below. It has a third function also, that of instrument marker, e.g., *E ni hwą-go pedao*, *This wood axe-WITH split*, or *Split this wood with an axe*.

Descriptive words precede the noun being modified, and numerals follow it, thus *My two small black dogs* is *Ena dwaizanu sizi yowi si*, literally *My small black dogs two*.

Locational terms also follow the head noun in a phrase, e.g., *be tomo-de*, *house inside-at*.

Demonstratives appear phrase-initially, e.g., *E bidi*, *this man*.

Daribi features three sets of personal pronouns, with SET A having dual functions:

SET A: Function as objects, or as subjects of verbs lacking expressed objects.

	Singular	Plural
1st	ena	da
2nd	nagi	dagi
3rd	q̣q̣	augwadi

SET B: Function as subjects of verbs with expressed objects.

	Singular	Plural
1st	eno	dago
2nd	nago	dagigo
3rd	q̣q̣i	augwadigo

SET C: Function as possessives.

	Singular	Plural
1st	ena	dena
2nd	naga	duga
3rd	q̣q̣	augwa

There are no dual personal pronoun forms as such, but they may be constructed by following the appropriate pronoun with *si* (Karimui Daribi) or *ti* (Erave Daribi), which means *two*. Note the similarity, especially in the case of Erave Daribi, to the Kairi dual suffix, (Chapter 7 of this volume). In the case of SET B the *-go* suffix shifts to the *si*, so that the expression meaning *you* dual, for example, is *dagi si-go*, literally *you* (plural) *two*-subject with expressed object.

3.4. Polopa

3.41. Phonology

The segmental phonemes of Polopa are displayed below:

Consonants:

p	t	k	ʔ
p ^h	t ^h	k ^h	
p f			
	s z	h	
m	n		
	r		
	l		
w	y		

As with Daribi, the unaspirated stops tend to be heard as their voiced counterparts, especially between vowels. This is reflected in some of the Polopa examples appearing throughout the chapter.

Glottal stop appeared in some Polopa lists, e.g., AUR naʔasi *arm*, BOR fobaʔai *nose*, SUG nasi daʔa *palm of hand* (note the lack of glottal in nasi, contrasting with the AUR example). The bilabial fricative β fluctuating to f is not shared by DAR, although some DAR speakers approach it in words where the norm is p^h , word initially.

Labialized and palatalized consonants, if interpreted as sequences of consonants, would constitute the only consonant clusters observed, except for dʃ as in BOR bugudʃi *knee*, SUG dʃigi *black*. However, since BOR has diʃigi for *black*, it is suspected that the dʃ sequence would prove under closer scrutiny to be a hurried d-vowel-ʃ sequence.

Vowels: i, u, e, o, a.

The following allophones occur: ɪ fluctuates with i, ɛ with e, ɔ (in a few examples) with o, and ʌ with a. Nasalized vowels, including allophones, are: ɪ̃, ũ, ẽ, ɛ̃, ɔ̃, ɔ̃̃, ʌ̃, and ʌ̃̃. Nasalization appears to be phonemic, on the strength of examples such as TEB wá *cassowary* vs. wá *netbag* and AUR o *sago* vs. ɔ *taro*.

Several vowels in isolation were observed to constitute words, e.g., AUR i bi *this house*; SUG e *I*.

Polopa syllable patterns include basically V, and CV, with CVV also a possibility depending on the interpretation of some vowel glides. If the dʃ sequence above proves to be a sequence indeed, it would constitute a (less frequent) CCV pattern.

It is suspected that further investigation would reveal the presence of phonemic tone in Polopa. One example is AUR and BOR yà *fish* vs. yá *mosquito*.

3.42. Grammar

As in Daribi, verbs in Polopa appear to be inflected only by suffixation. Free pronouns were found, indicating that perhaps person is not an important element in verb forms.

Like Daribi the imperative suffix is -a, but Polopa appears to use -i as the vocative suffix following -a (cf. Daribi -o), e.g., BOR fai *go!*

Whereas Daribi uses *-bo* for present tense/incomplete aspect, and *-boda* for customary/habitual action, Polopa apparently exhibits *-dabo* for the latter, as in AUR *ya su-dabo*, (*he*) *fish sees*.

Adverbial forms precede verbs, as in GAI *polo pai run!*, literally *quickly go*.

No distinctive noun forms denoting singular versus plural were noted. Descriptives precede the head noun in a phrase, as in AUR *tuʔu naʔasi*, *right hand*, and numbers follow the noun, AUR *hwj tamu two men*, both features of Daribi also. Prepositional clitics follow nouns, also as in Daribi, e.g., SOP and NEG *be-pa fai house-to go!*

In place of Daribi's *-go* as possessive marker, Polopa has *-ne* or *-nu*, as in TEB *sq-ne sa woman's clothes* or *sq-nu ami woman's breast*. No instances of this functioning as marker of subject with expressed object (cf. Daribi) occurred in the limited data, nor of it functioning as instrument marker. Two nouns may be juxtaposed without a possessive marker to denote their innate whole-to-part relationship, as in *ni du*, literally *tree fruit*, i.e., *fruit of a tree*, found in all the Popola lists and identically in Daribi.

Demonstratives appear phrase-initially, as in AUR *i bi this house*, cognate with Daribi *e be this house*.

It appears that Polopa may have two sets of personal pronouns, although none of the lists show even one satisfactory complete set. This author originally encountered difficulty in determining the full Daribi sets, particularly the third person plural forms, and Trefry (1969:78) noted that "...Pawaian has no third person pronouns. It uses demonstratives instead, often in conjunction with a noun." When *give him* was elicited BOR and SUG provided *u hwj-ba manai that man-to give!*, i.e., they used demonstrative plus noun constructions. However, TEB used *qj-ba menai him-to give*.

The following are the Polopa personal pronouns obtained to date:

	Singular	Plural
1st	ɛʋɛʋe	da
2nd	njyɛ	tiyɛ
3rd	qjʋai	

Similarities to Daribi SET A are obvious. In addition, the form *yano* was noted, as in BOR *yano nogui yadubo I dream do* (I dream), and appears (like Daribi *eno*) to function as subject of a verb with an expressed object. This suggests a second set of pronouns paralleling Daribi SET B.

Attempts at eliciting inclusive versus exclusive pronominal forms met with obvious confusion on the part of informants, indicating a probable absence of such forms. Daribi shares this lack. No dual personal pronouns were discovered either, but, as with DAR, the word for *two* may be used with the appropriate pronoun to form a constructed dual when needed, e.g., BOR *dabara damo* or SUG *da damo*, *we two*.

The Polopa question marker is *-ye* or *-ye*, as in SUG *ɲiyɛ de-ye you who-?*, cf. Daribi *nagi de-we*, same meaning, that is, *Who are you?*

Miscellaneous Observations

Daribi has 5 terms which cover 10 days from *today*, e.g., *do yesterday/tomorrow*, *duba day before yesterday/day after tomorrow*, *tegiga two days ago/two days hence*, etc. Polopa exhibited *doɔdɔ* for *yesterday/tomorrow*, but *dua* for *day before yesterday/day after tomorrow*. This is probably a cognate, but additionally *dua* in DAR means *later*, perhaps indicating a semantic shift.

Other more likely shifts are: TRA *iyei cry*, cf. DAR *yei to mourn* but *geda wabo crying*.

Polopa *so/sou woman*, cf. DAR *sou female animal* but *we woman*.

Several multiple cognate sets appeared in the data. Daribi uses both *ɛi* and *wɛ* for *water*; some Polopa speakers gave one term, some another. Both are probably known everywhere. WAR had both *asi* and *tiki* for *skin*, where DAR uses *tigi*, and the other Polopa lists had *asi*.

The Polopa counting system seems oriented to twos, as with DAR, and parallels DAR in having a specific term for *three* (BOR *sɔʃé*, DAR *sɛʃá*) as well as a constructed term, *two one* (AUR *damu beta* and DAR *si dededi*). Whereas TEB and BOR show *mɛ* for *one*, DAR uses *mɛ* for *another/also* but in constructions such as *mɛ...mɛ* its meaning shifts to *one...another*.

3.5. Neighboring Languages

3.5.1. Phonological Features

PAWAIA

Pawaia, as described by Trefry (1969), is very close to DAR phonologically.

The consonants are the same as for DAR, with the addition of *b* as an allophone of */p/* along with *p^h*, and with *t^h* and *t* allophones of one phoneme and *k^h*, *k* and *g* allophones of one phoneme.

The basic vowels *a*, *i*, *e*, *o*, and *u*, are identical to DAR, and *ɔ* also only rarely occurs. All six vowels may be oral or nasal, and all

constitute words in isolation in both oral or nasal forms. A high-low tone system exists, and either tone may occur on all vowels.

Pawaia syllable patterns are V, CV, VC and CVC. Consonants which occur finally are limited to m, n, t^h, t, d, ʃ in fluctuation; and ʔ/ʃ in fluctuation. There are no consonant clusters; the CVC pattern occurs only word finally.

WITU

Kerr (1962) lists Witu consonants as p^h, t^h, k^h, m^b, n^d, ng, l, w and y. This differs from DAR/POL in the lack of s and h and in the presence of the prenasalized stops and ng. There are few word-final consonants. The vowels consist of i, e, a, u, and o.

The language features phonemic tone, length, stress, and two types of nasalization (phonemic, and non-phonemic conditioned by a contiguous nasal consonant within a word in free variation with non-nasalization).

Syllable patterns are V, CV, CVV, CVC.

SAMBERIGI (Sau)

Consonants observed are p, m^b, t, n^k, n^d, h, s, m, n, l, w and y, roughly the same basic list as for DAR and POL. The vowels differ in that æ is included with i, e, u, o and a. The phoneme t has the allophone [ʃ] intervocalically.

Syllable patterns are V, CV, CVV, CVC. The only consonant clusters involve prenasalizing stops.

TIRI (Sau)

The consonant list appears identical to SAM above with the addition of ʃ and possibly b. The vowels are i; e, e, (perhaps allophones), u; o, o, (perhaps allophones), ə and ə. Two nasalized vowels occur, ɛ̃ and ɔ̃.

Syllable patterns are identical to SAM, and prenasalizing of stops (except p) occurs.

FOI

Phonetically Foi is much more complex than DAR/POL and the other languages in this section, especially in the stop series.⁷

Consonants are:

p	t	t ^h	k	k ^h	
ɸ			k	k ^h	x
b	d		g		
ɓ					
f	s		h		ʔ
	s				
m	n	ɲ			
	ɣ				
	l				
	ɭ				
w	y				

Vowels include: i, e, ɛ, u, o, a, ə, ʌ and ɤ. Nasalized counterparts occur for all except e and ɛ.

Syllable patterns are the basic three observed heretofore, V, CV and CVV. Labialization is the closest approximation to consonant clusters.

KAIRI

Turning from the west to the southern neighbors of Daribi and Polopa, we note that KAI lacks s but its consonant inventory is otherwise very close to DAR/POL.

Consonants are: p, t, k, b, d, g, h, m, n, ɣ, l, r, w and y.

The vowels, lacking only an ɪ allophone of i, are the same as in the Teberan Family. Nasal vowels do not occur.

Syllable patterns are V, CV, CVV, with labialization occurring.

GIBAI0

The s phoneme is also missing here, along with y.

Consonants are: p, t, k, b, ɓ, d, g, ɠ, h, ʔ, m, n, r, ɣ and w.

Vowels are: i, i:, e, e:, o, o:, ɛ, ɛ:, a and a:, with V: representing length. Again, there is no nasalization of vowels.

Syllable patterns are limited to V, CV and CVV.

ANIGIBI

The presence of a v phoneme is distinctive here, the rest of the phonemes being shared by most of the preceding languages.

Consonants are: p, t, k, b, ɓ, d, g, ʔ, m, n, v, ɣ, l, r, w and y.

Vowels are the usual five plus what might be allophones: i, ɪ, e, ɛ, o, u, a, ə and ʌ. Nasalization is absent.

Syllable patterns are C, CV and CVV. No consonant clusters appeared.

SUMMARY

Pawaia appears to be closer phonologically to Daribi and Polopa than any other neighboring language. It is the easternmost language featuring nasalized vowels in a belt stretching far to the west. Languages to the south of Pawaia and Polopa lack this feature. Tone is common to Daribi, Polopa, Pawaia and Witu, but is not apparent in neighboring groups. The major phonological difference between Pawaia and the Teberan Family is the presence of a few word-final consonants. (Listening to Pawaian conversation one gets the impression that nasal vowels occur more frequently than in Daribi.)

Foi's phonetic complexity would seem to set it quite apart from the Teberan Family, and from the Kairi-Gibaio-Anigibi neighbors which appear relatively simple phonologically.

3.52. Grammatical Features

As the survey was not intended to provide insights into grammatical structure only Pawaia will be considered here, using Trefry (1969).

Pawaia resembles Daribi in the following respects: It does not have complex sentence-medial verb forms. Inflection is by suffixation, with person and number distinctions absent (except for the first and third person singular stative forms). Focus seems to be on aspect (of which there are two) rather than on tense (although there is a future tense suffix). There is a tendency toward short phrases, and simple clause structure is preferred to complex constructions, with no medial clause types. Verbs are morphologically the most complex part of speech.

Pronouns are free forms, with possessives (there are only two) filling one function of DAR SET B personal pronouns.

Nouns exhibit no obligatorily possessed category. Numbers follow the noun being modified, adjectives precede it (except if more than one is used and one denotes colour, in which case the colour term follows the noun). Demonstratives appear phrase-initially.

It may be seen that Pawaia and Daribi share a number of structural features. Further comparison must await pending study of Daribi structure, particularly higher level features.

3.6. Wider Affinities

Wagner (1969:56, footnote 2) states "I have noted quite distinct series of cognates linking the [Daribi] language to that of Lake Kutubu (as reported by Williams) and to the Metlpa [*sic*] language of Mount Hagen, though in each case the number of cognates is unimpressive. As a matter of interest this author compared Daribi and Foi (Kutubu), and arrived at a 5% cognacy figure based on 89 items from the Swadesh 100 list (see Table 1, p.122). The comparison of 22 assumed cultural items raised the figure to 7% (Table 2), and on the basis of 231 items the figure was back down to 5% (Table 3). It would not appear that the two languages enjoy any special relationship, 5% barely qualifying them for a micro-phylum link. As already noted, there are many phonological differences. The Foi data were taken from a word list by M. Rule, on file at S.I.L.'s Ukarumpa headquarters.

However, when Foi and Polopa were compared the percentages showed quite a rise. Taking the three lists in the same order as above, the figures are 14%, 13% and 12%. These exceed the figures for Polopa vs. Sau, although Sau lies between Foi and Polopa on the map.

No comparison of Daribi and Medlpa was made, but with the Daribi-Polopa relationship established it is highly unlikely that Medlpa would be unusually close to Daribi. Wurm has noted (1964:89) that "Mikaru [Daribi] displays the greatest aberration from the Stock in its structure [comparing Karam, Kutubu, Mikaru and Pawaia]. ...In tabulating the four features ... which are of particular importance in assessing the typological resemblance of a language to the Stock, ... Mikaru [shows] none at all." Medlpa is definitely part of the Stock.

Others have suggested to this author that there might be a relationship between Daribi (on the southern edge of the Highlands) and the Sepik Hills family (on the northern edge), particularly Saniyo. A comparison was made, using Saniyo data elicited from two Saniyo men temporarily resident at Ukarumpa. The cognacy rate was 3%, with 8 cognates out of 229 comparisons. When compared with 12 Polopa lists Saniyo showed nothing over 7% (one case) in the full lists; with the 89 Swadesh items the average figure was 7%. Comparing only 22 assumed cultural items, Daribi and 4 Polopa lists showed a 5% relationship and 9 Polopa lists showed a 0% relationship to Saniyo.

A cursory comparison of some material from Alamblak, at the other end of the Sepik Hills family geographically, failed to turn up anything unusual either, so it appears safe to assume that there is no particular

relationship between Daribi-Polopa and this distant family.

Table 5

The following information is included for general interest, showing the relationships of the various languages in terms of family, stock and micro-phylum. Using Swadesh's figures, the lower limits of membership in each category are 28%, 12%, and 4% shared vocabulary, respectively.

Daribi - Polopa	Family (35%)
Daribi - Pawaia	Micro-phylum (10%)
Polopa - Pawaia	Stock (16%)
Daribi - Witu	Micro-phylum (8%)
Polopa - Witu	Micro-phylum (8%)
Pawaia - Witu	Less than Micro-phylum (2%)
Daribi - Samberigi	Micro-phylum (7%)
Polopa - Samberigi	Stock (13%)
Pawaia - Samberigi	Micro-phylum (5%)
Witu - Samberigi	Stock (12%)
Daribi - Foi	Micro-phylum (5%)
Polopa - Foi	Stock (14%)
Pawaia - Foi	Micro-phylum (7%)

3.7. CONCLUSIONS

Daribi and Polopa constitute a language family by themselves. Their closest common relative is Pawaia. In spite of the fact that many of the lexicostatistical comparison figures do not reach 81%, this author feels that the various Polopa lists represent basically one language made up (as suggested by Franklin 1968:25) of a chain of dialects. No pattern of area relationships is evident except that AUR, PED and TRA all in the southeastern part of Polopa territory, show over 81% relationships to each other. Pedege as a village no longer exists, their descendants perhaps having merged into AUR or other southern villages, so its high figure must be treated with caution.

In determining cognacy, this author has used a conservative approach, so that many figures may be too low. Errors have been noted in the data which would raise the percentages in some cases. Wurm and Laycock (1961:129) have spoken of lowering the 81% figure by as much as 10%. If this were done, a large proportion of the Polopa comparison figures

would certainly qualify the villages as speaking dialects of the one language. Mutual intelligibility testing was not a feature of this survey, so Wurm's and Laycock's procedures could not be applied to the data.

Pawaia, hitherto classified only as an isolate, shows more relationship to the Teberan Family than to anything else with which it has been compared. Since it is lexically closer to Polopa than to Daribi, further studies of Polopa in particular may well uncover additional links in both structure and lexicon between it and Pawaia.

N O T E S

1. The author and his wife have worked among the Daribi intermittently since August 1962, under the auspices of the Summer Institute of Linguistics, Papua New Guinea Branch.
2. Wagner's use of the letter r in Daribi is to represent a flapped alveolar sound. I would prefer to see d used instead, as I have observed most English speakers tend to interpret the r as an ordinary English r and thus mispronounce "Daribi".
3. A young woman from Kele was married into Pupitau, and I met a middle-aged Daribi man from the Suani area who was living uxori locally in Boro.
4. The spelling of this village name varies. It was formerly included in the Gulf District's Pepike Census Division and spelled (Saketau-) "Siligi". It is now in the Southern Highlands' Kerabi C.D., and spelled "Sirigi".
5. Gurimatu men have married at least four Daribi women - two from Masi village, one from Maina, one (deceased) from Dibe - and one from Lake Tebera. During my visit two young men, sons of Daribi wives, spoke to me freely in Daribi. It would appear that the conversion of Pawaia speakers into Daribi speakers, in progress on the Karimui Plateau, has begun at Gurimatu also.
6. Conclusions regarding grammatical features of Daribi were reached with the aid of a concordance of 16,000 words of Daribi text, produced by a joint project of the Oklahoma University Research Institute and

the Summer Institute of Linguistics, which was partially supported by Grant GS-1605 of the National Science Foundation.

7. This description no doubt includes allophonic variations.

W.M. Rule (unpublished, 1965) lists the following phonemes for F*oi* (F*oe*):
b, t, d, k, g, r, x, f, v, s, h, m, n, w, y, a, e, i, o, u, and
nasalized counterparts for each vowel. See also Chapter 4 for comments
on F*oi*.

8. See Chapter 6 for more details on the Kiwaian Family, of which
Gibaio and Anigibi are members.

APPENDIX A

This section lists alphabetically the Teberan Family languages, plus Pawaia. Alternate names follow each entry, with sources in parentheses.

- DARIBI- Karimui and Erave- Bólubi (MacDonald 1973); Burupo (Ryan 1970); Mikaru (Wurm 1961); Nikuniya (MacDonald 1973).
- POLOPA- Foraba (Franklin 1968); this now includes the following names and their alternates (source - Franklin 1968):
Bara- Harahui (Cribb, n.d.); Harahu (Capell 1962).
Ibukairu- (A.R. 1920-1).
Kewa- (Wagner 1967); Kewah (Franklin 1968).
Mamisu- (Capell 1962).
Ro- Keai or Worugl (A.R. 1921-2).
Sesa- (A.R. 1924-5).
Songu- (Capell 1962).
- PAWAIA- Pawaia (Capell 1954); Tūdāhwe (MacDonald 1973); Tūdawe (Wagner 1967); Tundawe (Hughes 1970); Tudawhe (Glasse 1965); Yasa (MacDonald 1973).

APPENDIX B

Because there are as many as five terms in use for the name of a given group of people or their language, this chart is included as a cross-reference. The left-hand list represents whoever is speaking, the other lists what he calls each language. Blanks indicate gaps in our knowledge.

SPEAKER	European	Karimui Daribi	Erave Daribi	Karimui Pawaia	Uraru Pawaia	Polopa
European	English/ Pidgin	Mikaru	Foraba (Wagner), Daribi	Pawaia	Pawaia	Polopa/ Foraba+
Karimui Daribi	Kanima po (= Pidgin, lit. <i>tan</i> <i>talk</i>)	Daribi	Daribi	Yasa	Yasa	Kewá
Erave Daribi		Daribi	Daribi			Kewá, Odani
Karimui Pawaia		Haʔihwi		Tydaqhwe	Dudá toi (toi = men)	Kewá
Uraru Pawaia		Nikuniya				Irohi*
Polopa		Daribi (Teberans use this)	Bólubi (Wopasali) Daribi (Tebera)		Yasa (Tebera)	Kewá (Tebera), Nqai (Boro, Tobare, Pupitau, etc.

+ Plus all the older terms listed on p.139.

* The Uraru Pawaians use this term to cover more than just Irou village, alias Trabedesare, the closest Polopa village. The -hi segment may indicate this is the Uraru attempt at the Polopa term Irou hwj.

APPENDIX C

Population Figures and Village Names

DARIBI

The Daribi population has increased from an estimated 4,000 to 5,000 ten years ago to an estimated 6,000 plus at present. Some of this apparent increase may be due to more complete censusing. Exact figures are impossible to arrive at since villages in the border area between Daribi and Pawaia feature a mixture of speakers of both languages. In addition, the population at Boma is a mixture of Daribi speakers and people from "Chimbu" languages to the north. Official census figures do not deal with the individual's primary language.

Chimbu District

Karimui Census Division

(* = primarily Pawaia but mixed Daribi)

Boisamalu
 Daia
 Dibe
 Hau
 Hoiayo *
 Hwaiyo *
 Kauluabo
 Kilibari
 Korabame
 Maia
 Meiu *
 Moiyo *
 Naiyo *
 Noluwai
 Peria *
 Soboro
 Sogo No.1
 Sogo No.2
 Solita *
 Waime
 Wediai
 Yauwi *

Total as of August 1971 - 3,379

Daribi Census Division

Anabai
Bope
Bunibidi
Delege
Dobeda
Dobu
Gelabi
Hagane
Hobe
Kebu
Kuburu
Maina
Negabo
Noru No.1
Noru No.2
Ogwanima
Punale
Saia
Sora
Sorarai
Tilige
Tua
Wai
Walai
Wiamani
Yogobo

Total as of November 1971 - 3,079

Bomai Census Division

Arubidi
Auwiku No.1
Auwiku No.2
Bakane
Biabe
Bilkane
Daribi
Deragora
Gegu
Hwoiyo
Kebilkane
Komaisibi
Kumai
Negabo
Samabe
Sulu
You

Total as of October 1971 - 798

Southern Highlands District

Kerabi Census Division

Kele		
Saki.	No figures	?
Suan1		

PAWAIA

Gulf District (Figures as of August 1970).

Upper Purari Census Division

Gurimatu	95	
Kairuku	139	
Koni	80	
Pawaia No.1	80	
Pawaia No.2	47	
Senadu	77	
Tatu	97	
Uraru	68	
Uri	19	
Weiiana	84	
Weme	62	
	<hr/>	
	1,341	1,341

Chimbu District (Figures as of November 1971).

Tura Census Division

Haia	26	
Hwalla	42	
Yale	29	
	<hr/>	
	97	97

Pio Census Division

Dyane		
Po		
Soliabedo		
Wiid		
	<hr/>	
	189	189

Karimui Census Division

Villages listed under Daribi which are starred are mixed Pawaia and Daribi, but as noted there exact figures are impossible to determine.

TOTAL 1,627+

The estimated total number of people whose primary language is Pawaia is 2,300.

POLOPA

Gulf District (Figures as of August 1970).

Era Census Division

Aurei	101	101
-------	-----	-----

Upper Purari Census Division

Lake Tebera	57	57
-------------	----	----

Pepike Census Division

Diauwereke	30	
Haubrere	70	
Koaru	No figures	
Negebare	30 (author's estimate)	
Omo	110	
Pepike	44	
Sera	67	
Sui	62	
Tetrebare	80	
Tikarapou	78	
Tobare	111	
Trabedesare	42	
Urunite	63	
Urupio	112	
	899 + Koaru	899+

Southern Highlands District

Kerabi Census Division

Figures in the 1968 Village Directory are not given by individual villages, but the total population for this C.D. was 2,432. According to Ryan (1970) there are 2,300 persons in "both dialects" of "Poraba". Since several villages are known to be Sau, Franklin's figure (1968:25) of 1,500 Polopa speakers

for the Kerabi Valley area is probably much more accurate. What Ryan takes to be two dialects may well be bilingualism in some villages. While Franklin (with Wagner) lists Suani as a Polopa village, Ryan lists it and Kele under his "Burupo".

Boro
Keba
Pupitau
Sirigi
Sopese
Suri
Waraga
Wopasali

1,500 estimated total	<u>1,500</u>
	2,600

The estimated total number of people speaking Polopa as their primary language is 2,600.

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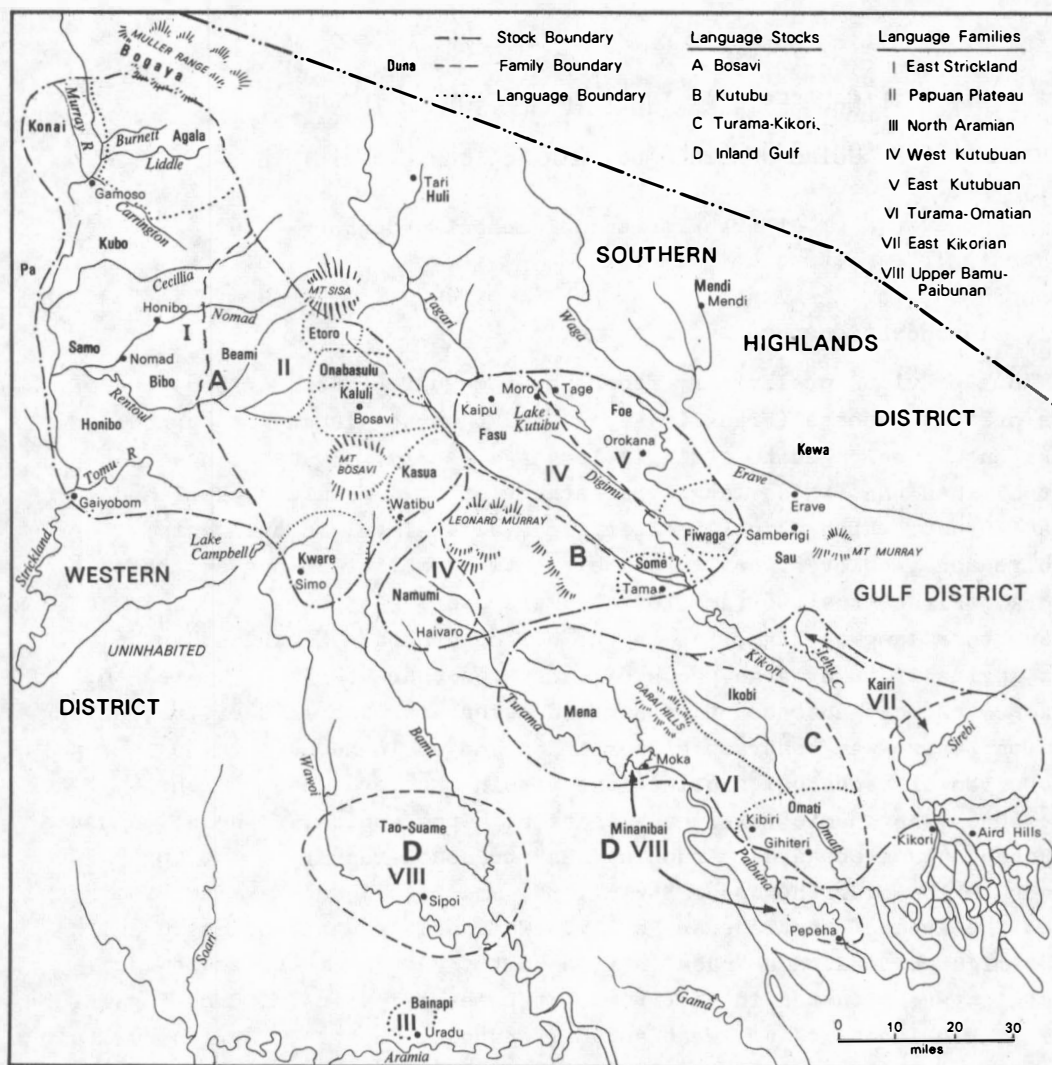
CHAPTER 4

LANGUAGES NEAR THE INTERSECTION OF THE GULF, SOUTHERN HIGHLANDS, AND WESTERN DISTRICTS

Karl J. Franklin and Clemens L. Voorhoeve

4.1. Introduction

In a previous preliminary report on the Gulf District (1968) one of the present authors (Franklin) suggested that the languages surrounding Lake Kutubu belonged to a single language family. It has since been established that these languages rather form two families, West and East Kutubu, which mutually entertain a stock-level relationship. There are reasons, however, not to unite the two families into a separate stock. First, the two families also share stock-type relationships with other language families in the neighbourhood. Second, they belong typologically to a large group of languages characterised by (a) the absence or near-absence of person and number marking in the verb, having at most a two-way contrast either in person or in number; (b) a profusion of aspectual distinctions within the verb, and (c) the presence of phonemic vowel nasalisation. Geographically these languages stretch over a broad belt running east to south-east from the Upper Fly River region over the Upper Strickland, Mt. Bosavi and Lake Kutubu areas into the area of the Teberan Family. This belt roughly coincides with what might be called a "nasalisation belt". At least the following families are situated in it (from west to east): Awin-Pa, Duna-Pogaia, East Strickland, Bosavi, West and East Kutubu, Teberan, Pawaian, certain members of the West Central (Engan), as well as others further east. Lexicostatistical relationships between the families show the chaining effect, each family being related on the stock-level to its nearest neighbour(s). However, stock-level relationships have also been found



MAP 4: LANGUAGE GROUPS NEAR MT BOSAVI AND EAST

to exist with typologically quite distinct languages outside the group. Awin-Pa, East Strickland, and Duna show such with languages of the Ok Family; West and East Kutubu, as will be shown below, also have a stock-level relationship with Kewa of the Engan Family. How the seemingly contradictory facts of typological diversity and lexicostatistical continuity need ultimately to be interpreted is still an unsolved problem. In this chapter we will mainly confine ourselves to the relationships between the two main languages of the Kutubu area, Fasu (West Kutubu) and Foe (East Kutubu), as well as both of these with the Kewa. Lexicostatistical figures will be given as a global indication of their relationships and it will be shown that regular sound correspondences exist between the three languages. Some inferences regarding the proto sounds can then be drawn. We will then compare the pronoun sets of the languages and certain grammatical features. Finally, we will make some comments on other relationships of the area, particularly that of Fasu with the languages of the general Mt. Bosavi area (see Map 4).

4.2. The Kutubuan Language

The term Kutubuan languages will be used here to refer to the West and East Kutubu Families. Fasu, Some and Namumi comprise the West Kutubu Family, Foe and Fiwaga comprise the East Kutubu Family.

Fasu is spoken by approximately 750 people (Loeweke and May, 1966). Almost 650 of these people live in the Fasu Census Division in the villages of Ai'isu, Anuwabi, Auwabau'uni, Hebai'ui, Hedinia, Iorogabai'ui, Kaipu, Kewodigi, Manu, Sisibia, and Sonagadigi. This general area is known as either the Namo-Uri in the north or the Namo-Hou in the south. We have called the language of the southern Fasu Some. This follows the name used by the people who have migrated to the Tama village area along the Kikori River.

Namumi is spoken in the upper Turama River area near the village of Hawaro by perhaps around 100 people. As can be seen from Table 1, below, Some bears a close relationship to both Fasu and Namumi and it may be that this reflects a natural link between the two areas.

The Foe language is spoken by about 2,800 people east of Lake Kutubu, on the main island of the lake, as well as southeast toward Orokana and beyond. Legends suggest that the Foe have moved into the lake area from the southeast (Rule, 1965). Williams (1940) suggests a number of dialects for the Foe and K. Franklin's lexical materials show in

particular an aberrant area to the southeast near Beaver Falls. We have called this the **Fiwaga** language area.

4.21. Lexicostatistics

Lexicostatistical relationships between the **Fasu-Foe** areas are now given in Table 1. The column to the left is based upon the Swadesh 100 item list, the column in the centre is the percentage figure based on our full 231 item list, while the column to the right represents the full list less assumed cultural items.

Table 1

FAS												
58	54	55	NAM									
59	61	61	68	66	65	SOM						
18	18	15	16	17	14	18	15	15	FOE			
10	11	10	15	16	13	15	15	13	64	60	60	FIW

By comparing only the cultural vocabulary (twenty-four items) we arrive at the figures given in Table 2.

Table 2

FAS				
50	NAM			
60	68	SOM		
20	32	25	FOE	
15	33	33	57	FIW

It appears significant that the figures jump only between the **Fasu** and **Foe** groups on the basis of probable borrowing of cultural items and their names. That is, solely within the **Fasu** group or within the **Foe** group the figures are not significantly different from those in Table 1.

4.22. Phonemic Inventory

A comparison of the phonemic systems of the two main languages, **Fasu** and **Foe** can be seen in Table 3.

Table 3

FAS	FOE	FAS	FOE	FAS	FOE	FAS	FOE	FAS/FOE	
p	-	t	t	k	k			i	u
-	b	-	d	-	g			e	o
f	f	s	s	-	x	h	h	a	
	v								
m	m	n	n					w	y
		r	r						

Foe has a series aspirated stops /t,k/ contrasting with a series unaspirated stops /b,d,g/; this contrast is missing in Fas~~u~~. Foe /x/ is a glottal stop in some areas, a velar fricative in others. /v/ is a labiodental voiced fricative. Both Fas~~u~~ and Foe have phonemic vowel nasalisation, and Fas~~u~~ also has phonemic word tone (May - Loeweke 1965).

Namumi and Some appear to have phonemic systems identical with Fas~~u~~, except for additional intervocalic glottals. All show strong vowel nasalisation.

Fiwaga apparently has no /t/ or /v/ phoneme; however, it shows two series of stops, as Foe, as well as a glottal phoneme.

4.3. The Kewa Language

Kewa is spoken by about 41,000 people in the Southern Highlands and is divided into three major dialects (Franklin 1968b). The Eastern dialect is located in an area roughly between Ialibu, the Iaro River and Kagua, then east along the Kagua Valley to the Iaro River again. The Southern dialect is from the Kagua Valley south to Erave. The Western dialect crosses the Mendi-Erave River and also extends north to near the present day town of Mendi.

A grammar of Western Kewa has been published (Franklin 1971).

Kewa is a member of the West Central Family, a group which also comprises Enga, Huli, Ipili, Mendi, Sau, and possibly Wiru. Members of this Family on the whole (except for Wiru) show a lexicostatistical percentage relationship of well over 40%. On the other hand, its relationship with other Highland Families, such as the Western Family, which it borders, is less than that displayed between Kewa and, for example, Fas~~u~~.

4.31. Lexicostatistics

In Appendix A to this chapter are listed all the cognate sets between Fasu, Foe and Kewa which have to date been noted. Counting only the items belonging to Swadesh's 200 item list, we arrive at the following figures: Fasu - Foe 42 cognates or 20%, Fasu - Kewa and Foe - Kewa both 28 cognates or 14%. We see that these figures fall within the range of stock-level relationships, but that Fasu and Foe definitely form a distinct group.

4.32. Kewa Phonemes

For comparative purposes the phonemes of Kewa are:

p	t	t̪	k	i	u
mb	nd		ŋg (most often g)	e	ə
	s				o
m	n	ñ			a
	r				
	l				
w		y			

Both /r/ and /l/ are flapped; there are two central vowels which are generally written as a and aa in Kewa materials. The east dialect and some parts of the south have a series of two alveopalatal sounds: /t̪/ and /ñ/.

Neither Fasu or Foe have prenasalised stops, an alveopalatal nasal, a lateral flap, or a sixth vowel. On the other hand Kewa has no /h/, glottal stop, or labiodental sounds. Only the southern area of Kewa has vowel nasalisation. This most often apparently reflects the loss of a petrified suffix (see also note 1 of Appendix A).

4.4. Sound Correspondences

The 136 sets of probable cognates listed in Appendix A show a general pattern of regular sound correspondences between Fasu, Foe and Kewa. There is also a fringe of seemingly irregular sound correspondences. This may be due to on the one hand our lack of knowledge of the conditions governing the sound changes, on the other hand to errors in the identification of cognates. We will list these correspondences below and see if any inferences regarding proto sounds can be drawn from them.

Since Fasu and Foe appear to be the most closely related of the three

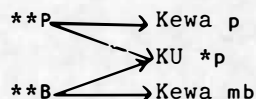
languages, we will first examine their correspondences and, where possible, reconstruct the proto-phonemes of proto-Kutubuan (to be abbreviated: KU). We then will examine the correspondences of the KU phonemes with Kewa to see if they allow reconstruction of any of the proto-phonemes of the still earlier common stage of KU and Kewa. KU protophonemes will be marked by an asterisk; protophonemes of the earlier stage will be marked by two asterisks. We will restrict ourselves to the correspondences between the consonant phonemes.

Each set of correspondences is followed by the list number(s) of the cognate set(s) showing the correspondence. The correspondences are given in the order Fasu - Foe - Kewa. Dashes indicate initial, medial, or final position (e.g. p-, -p-, -p). No dash indicates that the correspondence is found in all positions (i.e. for consonants: initially and medially). Three dots indicate absence of a cognate showing the correspondence.

p	:	o	:	p	5,59,60,63,71,84,123,140,201,222,274
-p-	:	-b-	:	...	14,61,62,106,128
p	:	...	:	p	20,21,83,132,202,207,277,285,286
-p-	:	-b-	:	-mb-	278
...	:	-b-	:	-mb-	29
-p-	:	v-	:	p-	283
...	:	v-	:	p-	289

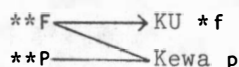
Fasu p : Foe b in the majority of cases and allows to set up KU *p. The relationship of Foe v to Fasu p and f (see below) is not clear. In fact, v does not fit well in the phonemic system of Foe and might perhaps be a phoneme borrowed from some other language. Cognate set 283 shows a number of unusual sound-correspondences: p-v-p; r-r-t; and t-d-k (see below). This may be due to the symbolic nature of the words, which express in their form and meaning the idea of a swift turning or spinning round.

KU *p corresponds in two cases with Kewa mb, in all other cases with Kewa p, suggesting a double origin of:



f	:	f	:	p	3,11,16,27,73,89,103,121,131,135
f-	:	v-	:	...	10

The regular correspondence of Fasu *f* with Foe *f* allows to set up KU **f*. For *f*:*v*, see above. The correspondence KU **f* : Kewa *p* shows that Kewa *p* also has a double origin:



m	:	m	:	m	18,19,26,51,52,56,63,77,108,124,129,133,
					205,221,223,225,229,231,237,281,282,
-m-	:	...	:	-n-	22
-m-	:	-n-	:	...	226

This quite regular set of correspondences allows to set up KU **m* as well as ***M*. Fasu *m* : Kewa *n*: probable cognates in Huli, Duna-Pogaia, and in the East Strickland and Mt. Bosavi families all show a voiced alveodental consonant: wano, pyero, weni, wodo-, walo. The Fasu form therefore could have resulted from regressive assimilation: *wano > wamo. It is not possible to account for Fasu *m* : Foe *n* in 226.

w-	:	...	:	w-	22
w-	:	w-	:	...	228
-w-	:	-w-	:	-p-	7
-w-	:	-b-	:	-w-	53

To cognate set 22 a number of probable cognates in other languages can be added (see above, the discussion of Fasu *m* : Foe *n*). The majority of these show initial *w*-, a few show initial *p*-, possibly from an earlier **p*w-. It seems possible at least for KU to postulate **w*-.

t-	:	t-	:	r-	73
-t-	:	-r-	:	-t-	102
-t-	:	-r-	:	-r-	103
t-	:	t-	:	Ø-	102
t	:	...	:	t	134,284
-t-	:	-r-	:	...	10
-t-	:	...	:	-r-	23,54,81,109,135
-t-	:	...	:	-s-	19
-t-	:	...	:	-l-	207
-t-	:	-r-	:	-nd-	3
-t-	:	Ø	:	-nd-	221
-t-	:	...	:	-nd-	82
...	:	-r-	:	-nd-	288
-t-	:	-n-	:	...	77
-t-	:	-d-	:	-k-	283

Fasu t corresponds with Foe t and r. The two instances of t : t occur initially; all the t : r correspondences occur medially, suggesting

KU *t → Fasu t
 → Foe t-
 -r-

Fasu t : Foe n: Possibly Foe r > n because of the following m. Only one instance was noted and more evidence is needed.

Fasu t : Foe ø - It is not clear if this is a case of loss of a phoneme, or a morpheme. Fasu t : Foe d: see the comments on the p-v-p correspondence.

KU *t corresponds with Kewa t (3x), r (6x), nd (3-4x), s, and k. In this case it will be necessary first to reconstruct the proto-phonemes of Kewa (by comparing the Kewa dialects), or even of the Engan Family, before any conclusions can be drawn. At this stage we can only note that none of the above correspondences are unusual between Kewa dialects.

r : r : r	279,280
-r- : -r- : -t-	283
-r- : -r- : ø	102
-r- : -r- : ...	13,17,18,89,127
r : ... : r	80,83,285
-r- : ... : ø	21,27,286
... : -r- : -r-	137
... : -r- : -l-	29
r- : d- : l-	278
r- : d- : ...	89
... : d- : l-	290
r- : h- : t-	275
r- : s- : ...	76

Fasu -r- corresponds regularly with Foe -r-. Fasu r- corresponds with Foe d-, s-, and h-. The best established correspondence is r- : d-; there is some doubt about the validity of the cognate sets showing the other two correspondences. Tentatively then we can set up

KU *r → Fasu r (note the parallel with KU *t).
 → Foe d-, -r-

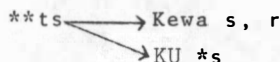
KU *r would then correspond with Kewa r, l, t and ø. As in the previous case no conclusions can be drawn until the protophonemes of Kewa have been reconstructed.

s : s : s	60,81,132,223,276
s : s : r	6,107,124,222,287
s : s : ...	14,72,104,105,204

In all instances, *Fasu* s : *Foe* s, allowing to set up KU *s. KU *s has two seemingly well attested correspondences in *Kewa*: s and r. Of the five instances of *s : s, however, three carry no weight, being connected with the trading of cultural objects. These are 223 *journey*, 132 *sweet potato*, and 81 *pearl shell*. Pearl shells and the recently introduced sweet potato (see Chapter 10 by Dutton) reached the area via trading routes carrying their names with them. This leaves us with the following sets:

pase - pase	siklɪni - rikini
ase - asa	yasi - yari or yaari
	musu - miru
	sisipu - riripu
	hisa - kira

They could form an indication that an earlier **s or **ts became *Kewa* r when next to a high front vowel, and s in other environments:



n : n : n	6,12,73,84,85,101,139,231,272
-n- : -r- : ...	106,227
-n- : ø : ...	15,30
n : ... : n	206,209
-n- : -n- : -ñ-	58

Fasu n : *Foe* n is well attested and allows to set up KU *n. The n - r and n - ø correspondences can at present not be accounted for. KU *n regularly corresponds with *Kewa* n, allowing to set up **n. The one instance of Ku *n : *Kewa* ñ does not allow to set up a proto phoneme **ñ. In the dialects of *Kewa* where ñ occurs it is clearly associated with high front vowels, as see (often) other palatal or alveo-palatal sounds.

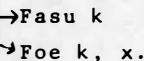
y : y : y	20,57,66,83,107,111,130,227
y- : d- : ...	106

The regular correspondence of y in the three languages allows to set up KU *y as well as **y. The y - d correspondence should perhaps rather be y - ø, reflecting a protoform *dyapani. Probable cognates are found

over a wide territory, being most prominent in the Finisterre Ranges and the Huon Peninsula (McElhanon and Voorhoeve 1970). Together with the *n : ñ correspondence it could be an indication that the KU-Kewa proto language had a palatal series of consonants.

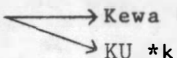
k- : k- : k-	29,65,72,84,85,86,101,137,223,271
k- : k- : -g-	4
k- : k- : ...	8,13,77,78,79,128,229
-k- : -k- : ...	126
k : g : g	2,28,57,71,85,138,273
k : g : k	3,6,88,103,122,136,281
k : g : ...	8,12,13,15,104,105
k : ... : k	25,80,81,82,108,109,129,134
-k- : -x- : ...	9,12,16,76
-k- : -x- : k-	101
-k- : -g- : -t-	123
k- : t- : k-	55
k : h : k	280,287
∅ : ... : k-	110
... : -x- : -k-	86
... : -x- : ∅	84
... : k : ∅	86

The best attested correspondences are Fasú k : Foe k, g, or x. Foe k and x, when corresponding with Fasú k, seem to be in complementary distribution: Fasú k- : Foe k-; Fasú -k- : Foe -x- between central and back vowels; Fasú -k- : Foe -k- in other environments. Thus we tentatively set up: KU *k



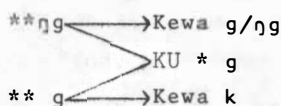
On the basis of the well attested k : g we can set up KU *g. The k - t and k - h correspondences cannot be accounted for.

KU *k corresponds with Kewa k, g, and ∅. In the case of *k : g it is suspected that the original initial k became medial through compounding of *ka(ne) with *dyo-, (see the note to item 4, Appendix A), and then became *voiced/prenasalised*. As regards KU *k : Kewa k, ∅, we hypothesize that **k



Foe k- : Kewa ∅ is left unaccounted for.

To KU *g correspond Kewa g and k. There seem to be no distributional factors involved, therefore two protophonemes are set up:



h- :	h- :	∅	104,122,125
h- :	∅ :	∅	1,9,281
h- :	w- :	∅	51
h- :	... :	∅	24

It is not clear in Foe what caused the retaining of h- in some, and the loss of h- in other cases. h- : w- in set 51 is only one possibility, the other being h- : ∅. We will tentatively set up KU *h-.

The KU consonant phonemes set up thus far are:

p	t	k	
-	-	g	
f	s		(h)
m	n		
	r		
w	y		

No evidence of a proto-phoneme *b was found. As for *d, it is possible that the correspondence Fasu r- Foe d- has to be reinterpreted as reflecting *d-, the complementary distribution with -r- : -r- being an accidental feature of the data in hand.

Ten two-starred proto-phonemes have been set up: p,k,b,g,f,s,ŋg,m,n,y; this result is only tentative and partial. Not before the proto-phonemes of the Engan Family have been reconstructed can comparison with the Kutubuan languages be expected to give reliable results.

4.5. Grammatical Features

One basis for comparison between Fasu, Foe and Kewa is the free pronominal forms which occur in cross-reference with suffixes marking person-number, as well as tense. The forms which are given in the following table are from Loeweke and May (1966), Rule (1965), and Franklin (1971). Blocks within the chart highlight the presence of identical forms.

FASU				FOE		KEWA		
		Erg	Nom	Ref	N-Foc	Foc	Intr	Tr
sg	1	ano	nomo	ni	na	nomo	ni	neme
	2	ne	nomo	ni	naxa	nomaxamo	ne	neme
	3	e	epo	ipi	yo	yo	nipu	nipumi
dl	1	eto	etapo	iti	yaxa,yage	+ + -mo	saa	saame
	2	teto	tetapo	titi	hagaxa	hage-maxamo	nipi	nipimi
	3	teta	tetapo	tati	hagaxa	hageramo	nipu	nipumi
pl	1	isu	isiapo	isina	yiya,yia	+ + -mo	niaa	niaame
	2	re	repo	namina	haxa	hemaxamo	nimi	nimimi
	3	i	ipu	namina	yaxa	yaxa	nimu	nimumi

The discrepancy in the labels given at the head of the columns may reflect the bias of the analyst, rather than the function of the pronominal sets. In Loeweke and May's description of Fasu (1966:26) one set fills the Subject slot of intransitive independent and dependent clauses as well as the Object slot of the transitive independent and dependent clauses. These are called Ergative in the chart above. This set of pronouns also fills the Classifier slot of general noun phrases. A second set (called the Nominative, above) fills the Subject slot of transitive independent and dependent clauses and the Possessor slot in a general noun phrase. Set three (called the Reflexive, above) fills the Referent slot of independent, dependent, and stative clauses. In the actual pronoun sets tone often disambiguates apparent homophonous forms.

According to more extensive materials (available to Voorhoeve) these pronominal sets parallel others, the remnants of which are found widely in Papuan languages. The Ok languages (Healey 1964) in particular compare well, e.g. Kati has 1sg. ne, 2sg. tep, 3sg. ye; 1pl. nup, 2pl. tip and 3pl. yi. Tifal shows 1sg. na, 2sg. kab, 3sg. a; 1pl. nu, 2pl. ib and 3pl. i. The proto-set may therefore be:

	Sg.	Pl.
1	nV(p)	ni(p)
2	$\frac{t}{k}V(p)$	$\frac{t}{k}i(p)$
3	yV(?) where V \neq i	yi(p?)

The dual forms are often represented historically by the compounding of morphemes meaning *two* or *together with* and are more difficult to satisfactorily analyse.

There are other similarities which are apparent between the pronominal forms of the three languages, which are also common to features over a much wider area, such as an *n* in the 1sg. and 2sg. forms (cf. also Greenberg 1971 and Wurm, forthcoming on general pronominal features).

In an earlier study Rule compared vocabulary and grammatical features of Foe, Huli and Pole. Pole is the southernmost dialect of Kewa and is within the same language family as Huli. We may therefore accept and summarise Rule's conclusions regarding Foe and Pole (S. Kewa). Rule stated that a very low correlation of vocabulary existed between Pole and Foe (7.4%). Because of this and the diversity of their grammatical structures he doubts that Foe can "be regarded as belonging even to the broad PHYLUM of the Highlands languages."

If his thesis is accepted, the relationship of Foe to Highland languages is more distant than that of Fasu and Highland languages. This in turn may suggest that the inclusion of Foe and Fasu on more than a stock-level relationship may be tenuous. There are several grammatical features that distinguish Foe sharply from Highland languages such as Pole or Huli. These are:

- (1) formation of the negative in a verb expression;
- (2) interrogative sentence formation;
- (3) aspects are indicated on noun phrases;
- (4) a separate set of suffixes to indicate consequential mood;
- (5) a speaker-verb rather than subject-verb relationship.

Foe has two separate verbal suffixes for the negative formation of commands: *-more* is used for the present, *-xoyoxo* for the future. Fasu simply uses the negative suffix *-fa*. In Kewa the enclitic form *na-* (quite common to the Highlands) is used.

Foe has two suffixes for interrogative formation: *-be* is used with verbs, while *-gebe* is used with nouns or pronouns. Fasu adds the *-ne*

suffix to the verbs. In Kewa the particle *pe* or *pae* is used, generally sentence-final to mark certain interrogative structures.

All three languages have immediate and non-immediate command forms: *e ~ -ye* (immediate) vs. *-maxae* (non-immediate) in Foe; *-sie* vs. *-nie* in Fasu; *-pe* (immediate) in Kewa, and both benefactive and non-benefactive forms in the singular and non-singular (Franklin 1971:39).

There are perceptual aspects in all three languages, Foe having by far the most: factual, seen, unseen, deduced, visible evidence, and previous evidence. Kewa generally uses two: present visible evidence and deduction/inference; Fasu apparently has only the observed aspect.

What Rule calls the focussed subject is marked by *-mo* in Foe, paralleling the nominative ending in the singular number in Fasu. In Kewa the form is *-me* and again an *-mV* subject/instrument/agent marker is a very common Highlands (perhaps proto-Papuan) typological feature.

In Foe and Fasu four tenses are reported: present continuous, near past, far past and future in Foe; present, customary, neutral and future in Fasu. The choice of terms undoubtedly again reflects the linguistic bias of the investigator. In Kewa we have named the tenses present, past, narrative past, future, and perfect, each also with a parallel benefactive set (Franklin 1971:38ff).

From the foregoing one may conclude that a distant genetic relationship exists between the three languages. Although their lexicostatistical relationships all fall within the stock level, further comparative evidence points to a closer relationship between Fasu and Foe than between either of them and Kewa. This is corroborated by the typological evidence.

4.6. Relationship of Fasu to Languages to the West

We will now turn to the relationships of Fasu with the typologically similar languages to the west, viz. the languages of the Mt Bosavi region. According to the latest evidence these languages fall into three families: East Strickland, Bosavi, and North Aramian. The East Strickland and Bosavi Families have been shown to belong to the Central and South New Guinea Stock (Voorhoeve 1968), McElhanon - Voorhoeve 1970). They have been dealt with in detail by Shaw in Chapter 5. By implication the North Aramian Family, recently discovered by Karl Franklin, also belongs to the CSNG Stock. At present it includes only the Bainapi language which seems to have its closest relationships with the Kaluli language of the Bosavi Family. The two languages show at least a 16% relationship.

The languages which are geographically adjacent to **Fasu** are **Kasua** and **Kaluli**, both found on the slopes of Mt Bosavi. Their lexicon shows the influence of the considerable culture contact between the **Fasu** and Mt Bosavi areas and lexicostatistical figures based on a comparison of **Fasu** with the two languages will certainly be too high. Our main concern will therefore be with the relationships of **Fasu** and **Beami**, another member of the Bosavi Family, but situated further west on the Papuan Plateau. The **Beami** people are separated from the **Fasu** by the **Etoro**, **Kaluli**, and sundry other tribes, and they are outside the direct cultural influence of the Southern Highlands (see also Chapter 5 on the Bosavi area).

4.7. Fasu-Beami Relationship

Earlier classifications (see above), based on short and not always reliable word-lists, put the **Fasu-Beami** relationships at the lower end of the stock level range (12%). Recent assessments of the lexico-statistical relationships between **Fasu** and its western neighbours show conflicting percentages. The table below shows the percentages calculated by Shaw on the basis of less than 100 words and between brackets the percentages calculated by Franklin, using a list of 170 words.

BEAMI					
(29)	41	KALULI			
(11)	17	(41)	39	KASUA	
(8)	11	(14)	35	(14)	32 FASU

One reason for the discrepancy can be found in the difference in size of the lists used, but certainly another reason is that the identification of cognates presents difficulties and that judgements tend to vary.

4.71. In order to arrive at a more reliable assessment of the **Fasu - Beami** relationships, a new list was made of the sets of probable cognates noted between the two languages. The list makes use of additional data in **Beami**, collected by Voorhoeve, and of the sizeable materials in **Fasu** collected by Loeweke and May. Also it takes into account comparative evidence furnished by other languages in the area when it helps to clarify the **Fasu - Beami** relationships. This list can be found in Appendix B.

Of the eighty items in the list, thirty-six belong to the Swadesh 200 item list. They are: 1,3,4,6,9,12,13,14,17,19,20,21,23,25,26,30,38,

47,48,49,50,51,55,57,58,59,60,61,62,63,65,67,70,72,73,75,77. There is a possibility that up to four items have to be dropped (19,20,55,65), as the validity of the cognate sets is doubtful. This leaves us with a cognation percentage of 15 - 18%, clearly within the stock-level range.

At present no attempt is made to systematically trace the sound correspondences; this must wait completion of the phonological analysis of Beami. The most frequent correspondences have been pointed out in Appendix B.

4.8. Summary

We have shown that Fasu has regular sound correspondences with Kewa of the Highlands, Foe near Lake Kutubu and Beami of the Bosavi Plateau. The degree of relationship is open to question, but it is doubtful if Fasu and Foe are more than separate families of the Kutubuan Stock. We have called these the West Kutubuan and East Kutubuan respectively.

Fasu also has proven links westward, with the whole Bosavian Family. Foe has cultural links eastward, particularly with the Teberan Family (see Chapter 3 for additional comments). With additional information Bainapi may also prove to be a member of the Bosavian Family. The data given points to a cognation level of about 10% for Beami - Foe and Beami - Kewa.

Clearly, the area around Lake Kutubu constitutes a vital linguistic link between the Highlands and the Lowlands, as well as with quite diverse lowland dwelling peoples.

APPENDIX A

Fasu - Foe - Kewa Cognates

In this Appendix we list cognate sets which have been noted between Fasu, Foe and Kewa. If the dialect of Kewa is not the West, it is noted as EK for the East and SK for the South (which is also called Pole). If one of the terms in a set is considered non-cognate, it is put between square brackets. If a term is missing in the data this is indicated by a dash. The sets are grouped and numbered, but the set numbers are left open so that others may be added at a later date. The groups are as follows:

1 - 50	Body Parts
51 - 70	Kinship Terms
71 - 100	Objects of Material Culture
101 - 120	Fauna
121 - 200	Other Concrete Nouns
201 - 220	Pronouns and Interrogatives
221 - 270	Abstracts
271 - 370	Events

Body Parts

	FASU	FOE	KEWA
1. <i>eye</i>	hĩ	ĩ	ini; le SK ¹
2. <i>mouth</i>	akai	agixa	agaa
3. <i>nail</i>	kitafene	girafe	kindipa
4. <i>skin</i>	kau	kaxo	yogane ²
5. <i>thigh</i>	pau	bau	palaa
6. <i>toes/fingers</i>	sikini	sigini	rikini
7. <i>wing</i>	auwa	awa	popaa
8. <i>bone</i>	kiki	kigi	[uni; kuli SK]
9. <i>breast</i>	hoko	oxo	[andu]
10. <i>chin</i>	akai fatu	agixa varu	[yaga]
11. <i>side of neck</i>	fufu	fufu	[maa]
12. <i>knee</i>	kakuna	gaxona	[rumu]
13. <i>leg</i>	korake	korage	[aa; ange SK]
14. <i>nose</i>	sape	sabe	[ini kandu]
15. <i>shoulder</i>	kinu	gĩ	[pasãã]
16. <i>stomach</i>	fako ³	faxo	[tomba]
17. <i>tongue</i>	aru	auru	[keke]
18. <i>teeth</i>	mere	mere	[imaa]
19. <i>back</i>	mati	[kixo]	masa
20. <i>blood</i>	yapi	[waria]	yaapi
21. <i>cheek</i>	pare	[agixa]	pae
22. <i>forehead</i>	wamo	[ifame]	weno; eno
23. <i>hair</i>	iti	[sãe]	iri
24. <i>heart</i>	himu	[gumũxu]	imu
25. <i>kidney</i>	kiri	-	kili EK
26. <i>neck</i>	mane, mawi	[gariko]	maa
27. <i>saliva</i>	torofae	[koseka]	tupi, supi, sope, rope
28. <i>buttocks</i>	[fimako]	genane	ge
29. <i>lips</i>	[akai kiri]	ko-baru	kambulu SK
30. <i>head</i>	uni	ũ, anuhae ⁴	kalu SK

Kinship Terms

	FASU	FOE	KEWA
51. <i>brother</i>	hame	wame	ame ⁵
52. <i>Fa brother</i>	mae	mae	mae
53. <i>Mo brother</i>	auwa	abia	awa
54. <i>father (ref)</i>	ata	[aba]	araa
55. <i>grandfather</i>	kaua	tāūwa	kakua
56. <i>husband/in-law</i>	emia	ima	ima
57. <i>namesake</i>	yako	yago	yago
58. <i>sister (of man)</i>	ainu	ana	anya
59. <i>Mo sister, Mo co-wife</i>	papa	babo	papa ⁶
60. <i>taboo/in-law</i>	pase	pase	pase ⁷
61. <i>woman's sister</i>	apu	boba	[agi SK]
62. <i>Fa sister</i>	ape	ape	arombo
63. <i>mother</i>	ama	[hūa]	ama
64. <i>father</i>	[ata]	aba	apa
65. <i>father-in-law</i>	[emea]	kauwa	kakua
66. <i>grandmother</i>	[hakamape]	aya	aya

Objects of Material Culture

	FASU	FOE	KEWA
71. <i>axe</i>	kapi	gabe	gapi
72. <i>bowl</i>	kasu	kawaso	kopo
73. <i>fire tongs</i>	tafina	tafina	ripina
74. <i>garden</i>	hemo, heme e	e	e
75. <i>house</i>	ape	a	anda
76. <i>drum</i>	roko	saxo	[lai]
77. <i>fireplace</i>	katema	kanuma, kanama ⁸	[tagaa]
78. <i>netbag</i>	aku, ku	ko	[nu]
79. <i>tanket</i>	kake	kō	[aapu]
80. <i>cowrie shell</i>	rake	[bari]	rake
81. <i>pearl shell</i>	sekete	[maxame]	sekere
82. <i>pillow</i>	kata	-	kanda
83. <i>raincape</i>	yapera	[asaxabu]	yapara
84. <i>apron</i>	[fiti]	kunaxabu	konaapu
85. <i>arrow</i>	[sakare]	kenege	kenege

	FASU	FOE	KEWA
86. <i>bark belt</i>	[terakai]	kaxo	ako
87. <i>bridge</i>	[pane]	sogo	ro
88. <i>hat</i>	-	garuga	kaluaka SK
89. <i>fence</i>	ruru-	duru; mafe ⁹	pape

Fauna

101. <i>duck</i>	kokona	ya koxona	kona EK
102. <i>flea</i>	tetare	terare	ete
103. <i>rat</i>	fakita	fagira	pakira
104. <i>death adder</i>	heseke	hesege	[malu SK]
105. <i>dog</i>	kasa	gesā	[yana]
106. <i>louse</i>	yapani	dabari	[ema]
107. <i>cassowary</i>	yasi	[guru]	yati SK; yaari SK
108. <i>flying fox</i>	kaima	-	kaima
109. <i>frog</i>	kuti	[auwage]	kuri
110. <i>lizard</i>	au	[kura]	kau
111. <i>bird</i>	[mena]	ya	yaa

Other Concrete Nouns

121. <i>light</i>	fae	āfa	paa
122. <i>moon</i>	heke	hege	eke
123. <i>root</i>	pikinu	bagixo	pitya
124. <i>smoke</i>	musu	musu	miru
125. <i>egg</i>	hāī	hāē	[apaa]
126. <i>path</i>	ikia	ika	[pora]
127. <i>tree</i>	ira	ira	repena
128. <i>wind</i>	kupa	kuba	[poropu]
129. <i>pond, lake</i>	hē kumi	-	ipa kumi EK
130. <i>rain</i>	yao	[kagi]	yai
131. <i>steam</i>	fofo	-	popo
132. <i>sweet potato</i>	supuru	[agira]	saapi
133. <i>taro</i>	me, ima	[yau]	maa
134. <i>thorn</i>	keta	-	keto
135. <i>wind</i>	atifo	-	poripu
136. <i>banana</i>	[kaputa]	ga	kaai

	FASU	FOE	KEWA
137. <i>bush, leaf</i>	[ima-yao]	kara	kara EK
138. <i>pandanus</i>	[hāse, kalipi]	āge	aga
139. <i>stone</i>	[ēkē]	gāna	aana; kaana SK
140. <i>water</i>	[hē]	ibu	ipi

Pronouns, Interrogatives

201. <i>who</i>	epa	ibuge	aapi
202. 3rd p.sg.	e, epo	yo	ipu
203. <i>here</i>	o	to	go
204. <i>all</i>	su	sunage	[rayo]
205. 1st p.sg.	nomo	nomo	[nime] ¹⁰
206. 1st pl.	ni	[na]	ni
207. 1st p.du.	etapo	[yage, iya hage]	saa lāapo
208. 2nd p.sg.	ne	naxa	ne
209. <i>this</i>	one	[to]	one

Abstracts

221. <i>another</i>	meta	me	meda
222. <i>hot</i>	sisipu	sisibu	riripu EK, SK
223. <i>journey</i>	kimisi	kimi	kimisu
224. <i>ripe</i>	su	su	ru
225. <i>afternoon</i>	samapu	samage	[aebe]
226. <i>heavy</i>	umi-	uni	[kedaa paa]
227. <i>name</i>	yano	yaro	[bi]
228. <i>not</i>	wae	wae	[dia]
229. <i>yellow</i>	kiame-	kame	[abu pia]
230. <i>yes</i>	ao	au	[e]
231. <i>young, small</i>	māno ¹¹	mano	[oge]

Events

271. <i>die</i>	ku-	ku-	koma
272. <i>eat</i>	na/ne-	ne-	na- SK
273. <i>give</i>	maka-	migi	gi-
274. <i>go</i>	pu	ubu, vi	pu

	FASU	FOE	KEWA
275. <i>hit</i>	ru-	hũ	tu
276. <i>look at, see</i>	ase	sebe	asa pea SK
277. <i>make</i>	pe	e	pea EK, pa,pi SK
278. <i>open door</i>	ropa-	doba-	lomba
279. <i>pare</i>	wara	ware	warea EK
280. <i>stand</i>	reke	erahãĩ	reka
281. <i>steal</i>	hakima	agima	paake mea
282. <i>take</i>	mo	ma	mea
283. <i>turn round</i>	maparitae-	verode, veroverode	lekeya, petekepetekeya SK
284. <i>carry on shoulder</i>	maka ti-	[gage-]	tia SK
285. <i>exchange</i>	ropo	-	ropo pea EK
286. <i>plant</i>	poro-	[kohũ]	poa
287. <i>light fire/cook</i>	[pa]	hisa	kira
288. <i>look at</i>	[ase]	ere-	anda
289. <i>shoot</i>	[kare]	viri	pia
290. <i>speak</i>	[some]	de	la

Notes to Appendix A

1. Both Kewa *ini* and *le* belong to the cognate set. *ini* probably retains an old suffix *-ni*, marking inalienability. Such a marker is also found in body part names in other languages of the East New Guinea Highlands Stock, e.g. in Enga, Ipili, Huli, Sau, Wiru. It has the form *-nV* or *-kV* (the vowel generally harmonising with the preceding vowel), presumably from a protoform *-*ŋgV*. Kewa, Fasu and Foe seem to have retained this suffix in a few names of body parts only. In Kewa it is *-nV*, in Fasu and Foe both *-nV* and *-kV*, *-gV* or *-xV* seem to occur. The following sets possibly show a petrified inalienability marker: (1) Kewa *-ni*; (2) Foe *-xa*; (3) Fasu *-ne*; (4) Foe *-xo*, Kewa *-ne*; (8) Fasu *-ki*, Foe *-gi*; (9) Fasu *-ko*, Foe *-xo*; (12) Fasu *-na*, Foe *-na*; (13) Fasu *-ke*, Foe *-ge*; (16) Fasu *-ko*, Foe *-xo*; (19) Foe *-xo*; (24) Foe *-xu*; (26) Fasu *-ne*, Foe *-ko*; (28) Fasu *-ko*, Foe *-ne*.

2. In the Kewa form *yogane*, *-ne* is suspected to be the inalienability marker, and *yo-* an unidentified morpheme (from **d²o-*, and perhaps meaning *body?*) with which *-ga-* *skin* was compounded. Compare the following cognates: Tebera: *segãĩ*, Wiru: *yogele*, Sau: *yonkele-ke*, Mendi: *songen*, Enga: *soge*, Huli: *dongone*, Pogaia: *huk^uan*, Pa: *sigā*, and cognates lacking **dzo-*: Awin: *kate*, Ok (Lowland) *kat*, **kaa*; (Mountain) **kaal*; Kubo: *koro*, Samo: *koropu*, Beami: *katofo*, *kafoto*, Kaluli: *togof*.

3. Fasu: *fako* = *intestines*. It could be a cognate of Ok **fakan*, *intestines*; if so, *-ko* would not be a petrified suffix (see note 1).

4. The forms represent different dialects in Foe.

5. Fasú: hame = *clanfriend*. Corresponding terms occur in the Mt Bosavi and East Strickland languages: Beami: sama, Samo: samo.

6. In the Mt Bosavi and East Strickland Families, cognates meaning *mother's brother* are found: babo, bab.

7. Cognates sharing the general meaning of *sibling-in-law* are also found in the Mt Bosavi and East Strickland languages (bas, base), in Duna-Pogaia (paluni, bato), and in the Ok languages (baat, baasim).

8. Foe: kanuma, kanama = *ashes*.

9. We don't know whether the two terms are synonyms, refer to different kinds of fences, or reflect dialectal differences.

10. Fasú: nomo = 'nominative form'; Foe: nomo = 'focussed form'.

11. The Fasú term also means *young of an animal*. In Beami, the cognate form maĩ̃ means *child*.

APPENDIX B

Fasu-Beami Cognates

The grouping of the items follows Appendix A, but the items are here numbered consecutively with notes interspersed. The number in parenthesis cross-refers to Appendix A, or expands it - in which case the number is underlined. A total of thirty-eight new forms are added below. The phonological analysis of Beami, although not complete, suggests the following symbols: p, t, k, f, s, h, m, n, r, w, y, i, e, æ, a, o, u. The symbols p, t, k, represent labial, alveolar and velar stops which are mostly voiced intervocalically and tend to become unvoiced elsewhere. The velar stop tends to become a voiced velar fricative when between two low back vowels. r represents a voiced alveolar flap or retroflex flap or a flapped lateral. All vowels can occur with nasalisation. There seems to be no opposition between n and r in an environment of nasal vowels: mǎnǒvmǎrǒ, hĩnĩvhĩrĩ.

- | | FASU | BEAMI |
|---|----------|--------|
| 1. (1) <i>eye</i> | hĩ | si |
| h:s also in 19,25,54,66. | | |
| 2. (3) <i>nail</i> | kitafene | ifĩ |
| kitafene presumably is an old compound < kita-fene, fene corresponding to ifĩ. Fasu also has another probable cognate of ifĩ, i.e. fe edge. Onanafi (between Etoro and Kaluli) has ifini. | | |
| 3. (4) <i>skin</i> | kau | katofo |
| Etoro has the metathesis form kofoto; Kasua has kapo (Kaluli displays metathesis of the first two consonants: katofo > togo:f). | | |

- | | FASU | BEAMI |
|--|-----------|----------------|
| 4. (5) <i>thigh</i> | pau | pesere, masere |
| The link is tenuous and rests upon such outside evidence as Kewa: palaa, Onanafi: fere, Huli: bahiri-ni, Wiru: mana, Pa: mere-. | | |
| 5. (7) <i>wing</i> | auwa | awkia |
| 6. (8) <i>bone</i> | kiki | -ki, kiwi |
| -ki occurs only in names of body parts. In Central Beami the word is kasa; kiwi is found in the eastern fringe of the Beami area (Komiofi, Etoro). k:k also in 3,10,18,21,22,23,36,38,41,42,46,53, 62,71,72,77. | | |
| 7. (9) <i>breast</i> | hoko | toto |
| 8. (10) <i>jaw, chin</i> | akai fatu | pakato |
| t:t also in 16,19,29,33,74. | | |
| 9. (10 + 23) <i>beard</i> | kamasi | māyāpo |
| māyāpo consists of may- + -apo <i>hair</i> (see below, 15). The link is tenuous. | | |
| 10. (15) <i>shoulder</i> | kinu | kita-ki |
| Kaluli has kelen. It seems possible that also Fasū: kita- in kitafene <i>nail</i> (Nr. 2) and Beami: kita- <i>shoulder</i> are cognates. The clearest cognate of Fasū: kinu is the proto-Ok form reconstructed *cʷiin (Healey 1964). | | |
| 11. (17) <i>tongue</i> | aru | ǣri |
| r:r also in 34,44 (cultural items), 69,71. | | |
| 12. (18) <i>teeth</i> | mere | pēsē |
| m:p also in 13,36,40. Outside evidence: Awin: p ^h ete, Pa: pere, mare. | | |
| 13. (19) <i>back of body</i> | mati | pari-ki, pa-ki |
| 14. (21) <i>cheek</i> | pare | pæ |
| p:p also in 4,24,27,39,53,70; loss of -r- in Beami also in 13,16, 38,74. | | |

- | | FASU | BEAMI |
|---|------------|--|
| 15. (23) <i>hair</i> | iti | hĩnĩ |
| hĩnĩ or hĩrĩ is found in Eastern Beami (Komiofi) and in Etoro; Central Beami has hināpo (-apo being a morpheme meaning <i>hair</i> , <i>feather</i> as in witapo < wita + apo, <i>cassowary feather</i>) | | |
| 16. (27) <i>saliva</i> | totofae | tefo |
| Also noted Beami: kafu, Etoro: kahũ. | | |
| 17. (31) <i>fat, grease</i> | sawe | sěfě |
| s:s also in 42,44,72,74, but 44 and 72 are cultural items, 72 being the recently introduced sweet potato. | | |
| 18. (32) <i>elbow</i> | arm + koma | arm + kumu |
| m:m also in 9,19,20,25,28,30,35,37,58. | | |
| 19. (33) <i>navel</i> | himu tipu | otatipu, simukofo |
| Eastern Beami (Komiofi) has otatipu in which -tipu corresponds with Fasu: tipu; the rest of Beami has simukofo in which simu- corresponds with Fasu: himu (= <i>belly</i>). | | |
| 20. (34) <i>rope, vein</i> | memetere | momoke |
| 21. (35) <i>forearm, eight</i> | kari | koto |
| 22. (36) <i>liver</i> | kasoko | toko |
| Compare 15, where kamasi corresponds with mǎy-. | | |
| 23. (37) <i>tail</i> | keno | nǎko |
| Assuming metathesis of the consonants. | | |
| 24. (38) <i>behind</i> | patera | parigia |
| Both forms are obviously related to the words for <i>back of body</i> (Nr. 13). | | |
| 25. (51;56) <i>clanfriend,</i>
<i>taboo</i> | hame | sama (<i>clanfriend</i>);
sema (<i>taboo</i>) |
| 26. (55) <i>grandfather</i> | kauwa | auwa |

	FASU	BEAMI
27. (59) <i>mother sibling</i>	papa	papa
Fasu = <i>mother's sister</i> ; Beami = <i>mother's brother</i> . Related forms in the East Strickland and Awin-Pa Families also mean <i>mother's brother</i> (Samo: babo, Bibo: bab, Pa: babo).		
28. (63) <i>mother</i>	ama	æme
29. (64) <i>father</i>	ata	ata
30. (67) <i>child</i>	mano	mārō/mānō
Fasu: mano = <i>young, small; young of an animal</i> .		
31. (71) <i>axe</i>	hānu	hay, hayi
32. (78) <i>netbag</i>	aku	atu
atu was noted in the Etoro area; Beami has esa.		
33. (85) <i>arrow</i>	tare	tati
34. (90) <i>knife</i>	ferepe	herepe
35. (91) <i>plaited bag</i>	mate	māsi
36. (108) <i>flying fox</i>	kaima	karepa
37. (111) <i>bird</i>	mena	mæni
In several places in Beami the form hega was noted, cognate with Duna: hega and East Strickland siga, sigo, siu. The geographical distribution of the two forms is not clear. n:n also in 23,30,57,58,67.		
38. (112) <i>crayfish</i>	kiso	kesoro
39. (113) <i>leech</i>	tepo	hepe
40. (114) <i>hornbill</i>	nuamo	tawapo
41. (115) <i>fly</i>	kofo	kakopæ
42. (126) <i>path</i>	ikia	iti
iti in Eastern Beami and Etoro only; the common Beami word is roko.		

	FASU	BEAMI
43. (127) <i>tree</i>	ira	i, ifa
Eastern Beami, Etoro, Kaluli and Kasua have i.		
44. (132) <i>sweet potato</i>	supuru	siapuru
45. (135) <i>wind</i>	fofo	fo
46. (134) <i>stone</i>	eke	iki
47. (140) <i>water</i>	hē	hārō
48. (141) <i>coconut</i>	pasi	fay
49. (142) <i>blackpalm sp.</i>	waipa	waipu
Etoro has wāya, Kaluli: wayo.		
50. (143) <i>betelnut</i>	pono	molopi
51. (144) <i>sand</i>	sakipu	posekai
Just a guess, assuming that it is possible that the forms consist of *sakai + *pu in different order.		
52. (145) <i>ball</i>	poro	moto (= <i>clump, ball</i>)
53. (146) <i>hole</i>	koparu	kerapo
Assuming that one of the forms shows metathesis of r and p.		
54. (147) <i>ground</i>	hāuwaka	osobo
55. (202) <i>he</i>	e	e
56. (204) <i>all</i>	su	huru
57. (205) <i>I</i>	ano	na
58. (205) <i>I</i>	nomo	namo
59. (208) <i>you sg.</i>	ne	ti
See 4.4.		
60. (210) <i>they</i>	i	iri
61. (227) <i>name</i>	yano	dyō

	FASU	BEAMI
62. (232) <i>thunder</i>	kikiri	ku kere- (= to thunder)
63. (233) <i>bad</i>	watiki-(sa)	watere-(y)
64. (234) <i>white</i>	pakae-(sa)	fare-(y)
65. (235) <i>first</i> Etoro has afāte.	fana	afātefā
66. (236) <i>long, tall</i> Etoro: setate; Kasua: senapo.	horopo	sotake, sata
67. (272) <i>eat</i>	ne-	na-, mo-
68. (277) <i>make, do</i>	pe-	pæ-
69. (280) <i>be (standing)</i>	reke-	rere-
70. (287) <i>cook</i>	pai-	pey (= cooked)
71. (289) <i>shoot</i>	kare-	kara-
72. (291) <i>sing; song</i>	kesa- (sing)	kesāmi (song)
73. (292) <i>painful, have pain</i> te-		se-(y)
74. (293) <i>rotten</i>	tore-(sa)	tosa-(y)
This would be a case in which the Beami form preserves in its stem an old suffix -sa, still productive in Fasu.		
75. (294) <i>call</i>	wa-	we-
76. (295) cf. (135) <i>blow</i>	fo-	fura-
77. (296) <i>be (sitting)</i>	kake	kare-
Beami: kare- is an existential verb, but it is not known if it refers exclusively to 'sitting' objects.		
78. (297) <i>look for, find</i>	ko- (find)	oko- (look for)
79. (298) <i>climb</i>	he-	hete-
80. (299) <i>come</i>	pe-	ma-/mi-
Beami ma- and mi- are suppletive stems.		
81. (300) <i>cry</i>	hiripu-	tii-

APPENDIX C

By comparing Appendices A and B, the following probable cognates are shared between Beami, Foe and Kewa. The numbers in parenthesis cross-refer to the lists in Appendices A and B.

1. <i>eye</i>	(A,B.1)	Foe and Kewa (F, K)
2. <i>nail</i>	(A.3, B.2)	F, K
3. <i>skin</i>	(A.4, B.3)	F, K
4. <i>wing</i>	(A.7, B.5)	F, K ?
5. <i>bone</i>	(A.8, B.6)	F
6. <i>breast</i>	(A.9, B.7)	F
7. <i>tongue</i>	(A.17, B.11)	F
8. <i>tooth</i>	(A.18, B.12)	F
9. <i>back</i>	(A.19, B.13)	K
10. <i>hair</i>	(A.23, B.15)	K
11. <i>father</i>	(A.64, B.29)	K
12. <i>mother</i>	(A.63, B.28)	K
13. <i>path</i>	(A.126, B.42)	F
14. <i>tree</i>	(A.127, B.43)	F
15. <i>I</i>	(A.205, B.57)	F, K
16. <i>you</i> (sg.)	(A.208, B.59)	F, K
17. <i>he</i>	(A.202, B.55)	F, K
18. <i>all</i>	(A.204, B.56)	F
19. <i>name</i>	(A.227, B.61)	F
20. <i>small</i>	(A.231)	F
21. <i>eat</i>	(A.272, B.67)	F
22. <i>stand</i>	(A.280, B.69)	F?, K

Additional cognates can be added to the above basic terms.

23. <i>louse</i> (A.106)	B: imu
24. <i>ear</i>	B: kē, F: kia, K: kale
25. <i>speak</i> (A.290)	B: sia ta-
26. <i>black</i>	B: amunə-bui, F: budu, SK: busupi
27. <i>we</i>	B: nini, K: niaa
28. <i>sit</i> (A.290, B.77)	B: fi-, K: pira

By examining non-basic vocabulary items, still other cognates can be added:

29. <i>thigh</i>	(A.5, B.4)	F, K
30. <i>chin</i>	(A.10, B.8)	F
31. <i>shoulder</i>	(A.15, B.10)	F ?
32. <i>cheek</i>	(A.21, B.14)	K
33. <i>saliva</i>	(A.27, B.16)	K
34. <i>grandfather</i>	(A.55, B.26)	F, K
35. <i>clan brother</i>	(A.51,56, B.25)	F, K
36. <i>mother's sibling</i>	(A.59, B.27)	F, K
37. <i>bag</i>	(A.78, B.32)	F
38. <i>flying fox</i>	(A.108, B.36)	K
39. <i>banana</i>	(A.136)	F, K (B: kai)
40. <i>grandmother</i>	(A.66)	F, K (B: ayā)
41. <i>vine</i>		B: ēfē, K: ope
42. <i>taboo/in-law</i>		B: bae, K: pase

APPENDIX D

LEGEND

- BAINAPI (North Aramian) Gainapi (Franklin 1970) perhaps also Sarego.
- BEAMI (Bosavian) Bedamini (Voorhoeve 1970).
- FASU (West Kutubuan) Kaipu (Wurm) Kaibu or Lake Kutubu (Capell 1969) Namomebo (Bridges).
- FIWAGA (East Kutubuan) Beaver Falls.
- FOE (East Kutubuan) Kutubu or Mubi River (Williams 1940-41); Foi-i or Mubi River (AR 1926-27); Foi (Franklin 1968); dialects of Mubi, Fimuga, Ifigi and Kafa (Voegelins 1965).
- KAIPU dialect of Fasus; also called Sisipia or Namo (J. May, personal communication).
- KALULI (Bosavian) Ologo (APCM).
- KASUA (Bosavian) Bosavi (Voorhoeve 1968) Ikifaro (Bridges).
- KEWA (West Central) Kewa-pi (Wurm 1960).
- KWARE (Bosavian).
- NAMUMI (West Kutubuan).
- POLE (West Central) Rule (unpublished), Kewa dialect.
- SAU (West Central) Samberigi (Capell 1962); Okani or Tugi (AR 1921-22).
- SOME (West Kutubuan); dialect of Fasus.

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CHAPTER 5

A TENTATIVE CLASSIFICATION OF THE LANGUAGES OF THE MT. BOSAVI REGION

R. Daniel Shaw

5.1. Introduction

The material presented here for the languages of the Mt. Bosavi region of Western Papua (see Map 4) was largely collected by the author on a survey conducted during September, 1971. The present classification is somewhat divergent from that which was previously believed to exist for the area. A tentative classification for the area was first published by Voorhoeve (1968) and though we refine that classification somewhat, the present paper can by no means be considered definitive.

The Swadesh 100 word list was used as the basis for the data presented here. Following Gudschinsky (1956) each list of vernacular terms was compared by the inspection method and scored as cognate or non-cognate, similar to the method used by McElhanon (1967).

What follows is a rather detailed analysis of the material for the six groups of the East Strickland Plain which is then compared with the available material for the Papuan Plateau. Together the groups from these two areas comprise the Bosavian region of the Central and South New Guinea Stock (Voorhoeve, 1970).

An interesting aspect of linguistic relationships which complicates classification of the groups along the eastern bank of the Strickland River, but is also evident in many parts of New Guinea, is the occurrence of cognate chains (McElhanon, 1970). Thus each group is closely related to the group next to it, and is related to each successive group to a lesser degree. Therefore a classification based entirely upon standard lexicostatistical methods simply mirrors this complication.

The outcome of the chaining phenomenon is that of immediate geographical mutual intelligibility. The communalect chains involve many groups which share mutual intelligibility along the chain, but groups at the far ends of the chain are unintelligible with each other. This, of course, introduces the problem of where to draw language boundaries. If one does, in fact, posit boundaries, where along the chain are they made and what is the criteria for making them?

Wurm and Laycock (1961) address themselves to this problem. They maintain that lexicostatistic material in itself is not sufficient, and that mutual intelligibility must be considered. For this reason they posit a cognate figure of close to 70% as being more realistic for determining language boundaries (at least in New Guinea) rather than the 81% figure determined by Swadesh (1955). The 70% figure is supported by Healey (1969:117) in his review of Dyen's classification of Austronesian languages (Dyen 1965). Keeping both mutual intelligibility and the more realistic lexicostatistic relationship in mind, we now outline the groups of the Bosavian region.

5.2. Lexicostatistical Overview

The lexicostatistical figures presented in Table 1 need the following comment.

First of all, Duna and Bogaya show an interesting relationship to languages of the Bosavi area. Duna was at one time (Wurm, 1960) thought to constitute a Family-level isolate of the ENGH stock. More recent evidence (from Voorhoeve, reported in Wurm, 1971) suggests that Duna is a member of the CSNG stock. A comparison of Duna with Huli (of the West Central Family of the ENGH stock) on the one hand, and with Bogaya (a language southwest of Duna) on the other, shows the following lexicostatistical relationships:

Duna-Huli	27-32% (46 to 54 related of 170 words)
Duna-Bogaya	20-28% (34 to 47/170)
Huli-Bogaya	5-10% (7 to 18/170)

Therefore, although Duna shows an almost equal lexical relationship with both Huli and Bogaya, the latter two show a more remote relationship. Grammatical evidence would seem to support the inclusion of both Duna and Bogaya within the CSNG stock. However it seems wise, without more data, to leave Duna and Bogaya as unplaced Family isolates of the CSNG Stock.

Secondly, the high relationship of **Fasu** with languages of the Bosavian area is again noticeable (compare Chapter 4). However, **Fasu** has similarities with the ENGH Stock as well as with, for example, Kaluli of the CSNG Stock. As we stress later in this chapter, more detailed study is needed in this area.

Table 1
Percentages of Shared Basic Vocabulary

Duna

28 Bogaya

9 9 Pa

5 10 9 Agala

8 13 11 70 Kona1

4 6 10 69 71 Kubo

5 7 12 65 64 83 Samo

5 7 13 55 55 71 87 Honibo

5 7 13 52 53 69 79 80 Bibo

9 9 11 16 16 25 27 27 27 Biam1

9 6 12 12 15 18 18 21 24 55 Etoro

9 10 9 12 10 17 18 18 20 45 65 Onabasulu

8 8 11 8 10 14 16 16 16 41 37 56 Kaluli

8 8 9 7 11 9 10 10 11 17 28 36 39 Kasua

8 5 9 5 8 6 7 7 7 11 28 32 35 32 Fasua

Finally by comparing all the groups of the East Strickland Plain with the Pa, inhabiting the region west of the Strickland River from the Cecelia River south almost to Lake Murray, an average of 12% lexicostatistic relationship is noted. This is considerably lower than the 36% figure presented by Voorhoeve (1968), and may result from our unfamiliarity with phonetic shifts and other factors which result in relationships not apparent by simple inspection. However, as we hope to show, this lower figure is consistent with the cultural background of the situation. Certainly, at least for the present date, the Strickland River acts as a cultural and linguistic barrier of considerable importance.

5.3. Groups on the East Strickland Plain

Beginning in the north, the following groups are encountered:

(1) Approximately 200-300 people who call themselves Agala live at the upper reaches of the Burnett and Liddle Rivers, in the rugged terrain east of the Strickland River.

(2) The Konai people numbering 300-400 live along both banks of the Strickland River as well as to the west beyond the Murray River. They share 70% of the lexical items with Agala, and are mutually intelligible with them, as well as with the Kubo and Samo to the south.

(3) Approximately 1000 Kubo inhabit a large area from the Carrington River in the north, and extending in south-easterly direction to the Nomad River. Though differences exist between individual communities, there is only a 6% divergence between Gamoso in the north and Honabi in the south. Kubo has a 71% lexicostatistic relationship with Konai and is mutually intelligible with all the groups of the Plain.

(4) The Samo, bounded by the Strickland River to the west, the Nomad River to the south, and the Kubo people to the north and east, number about 650. They share 83% of the lexicon with the Kubo, 87% with the Honibo and are mutually intelligible with all the other groups on the Strickland Plain.

(5) The Honibo people live south of the Nomad River in a vast waste land that is sparsely settled - the group numbering about 700. There is a 15% divergence in the speech of those in the northern part of the area along the Rentoul River and those living along the Tomu River to the south. However, under the living conditions dictated by the hostile environment this is quite understandable. The Honibo have an 87% lexicostatistic relationship with Samo and 80% with Bibo, and are mutually intelligible with both.

(6) The Bibo are the eastern most group of the Strickland Plain with a little over 400 people living between the Nomad and Rentoul Rivers with the Papuan Plateau rising to the east. They share high cognate counts with the rest of the Plains groups and are mutually intelligible with the Honibo to the south and both Samo and Kubo to the north.

There are a total of six major closely related languages and dialects (= communalects) with a total population of about 3300 inhabiting an area approximately ninety miles long and twenty miles wide along the eastern bank of the Strickland River. Table 2 shows the linguistic relationships between these groups and clearly establishes the chaining which takes place.

Table 2

Linguistic Comparison of Groups on the East Strickland Plain

North to South			South to North		
Agala - Konai	70%	} Mutually Intelligible	Bibo - Honibo	80%	} Mutually Intelligible
Agala - Kubo	69%		Bibo - Samo	79%	
Agala - Samo	65%		Bibo - Kubo	69%	
Agala - Honibo	55%		Bibo - Konai	53%	
Agala - Bibo	52%		Bibo - Agale	52%	

Central, North to South

Samo - Agala	65%	} Mutually Intelligible
Samo - Konai	64%	
Samo - Kubo	83%	
Samo - Honibo	87%	
Samo - Bibo	79%	

5.4. Language Groups on the Papuan Plateau

The author has not been able to personally collect the material for the groups on the eastern portion of the Papuan Plateau. However, except for material in Etoro, which is sparse, others have contributed materials on the area. The sources vary and this could result in a certain amount of skewing of the interpretation. The following, however, emerges as a tentative picture:

(1) Dominating the Plateau west of Mt. Sisa in the north and Mt. Bosavi in the south are 3500 Biami. Though there is some divergence between communities the Biami act as a single linguistic entity, and have an average lexicostatistical comparison of 25% with the groups of the Strickland Plain. However, they show a greater linguistic affinity to the groups on the plateau to the east of them, generally with relationships in the vicinity of 40 to 50%.

(2) Numbering about 500 the Etoro people live on the Plateau south of Mt. Sisa. Unfortunately the material available is woefully inadequate, and, therefore, a list has not been included in the appendix. What is available indicates a cognate count of approximately 55% with Biami. In personal communication with T. Hoey (APCM) and C.L. Voorhoeve there is good indication of mutual intelligibility between the two groups.

(3) The Onabasulu occupy an area about midway between Mt Sisa and Mt. Bosavi and number approximately 300. They share about 65% with the Etoro to the northwest and about 56% with the Kaluli to the south. In personal communication, T. Ernst indicated that the Onabasulu are not mutually intelligible with either of these groups.

(4) The Kaluli (see also 4.3.) consist of approximately 1400 people living to the north of Mt. Bosavi. The available material indicates a lexicostatistical relationship of 41% with Biami. Kaluli is related to Kasua on the southern slopes of Mt. Bosavi by 39%, but the latter is related to Biami by only 17%. This again suggests the effect of chains of relationships when attempting a classification of languages within the area.

Though there are many cultural similarities between the Plateau people and those of the Strickland Plain, the area seems to be more diverse in the linguistic realm. Table 3 presents the material available for the Plateau and compares it with the languages to the west on the Plain and to the east toward Lake Kutubu. In both cases the final language compared is outside the region presently in focus.

Table 3

Linguistic Comparison of Groups on the Papuan Plateau

Biami - Etoro	55%	Kasua - Kaluli	39%
Biami - Onabasulu	45%	Kasua - Onabasulu	36%
Biami - Kaluli	41%	Kasua - Etoro	28%
Biami - Kasua	17%	Kasua - Biami	17%

Western Trend		Eastern Trend	
Etoro - Biami	55%	Biami - Etoro	55%
Biami - Samo	27%	Etoro - Kasua	28%
Samo - Pa	12%	Kasua - Fasu	32%

From the material presented thus far, it appears that the Biami and other groups of the Papuan Plateau are more closely linked to the groups to the east of them (Franklin's Kutubuan, see Chapter 4), than to the west. Indeed, in discussing the Kaluli, Schieffelin (1971) points out that their physical and cultural affinities appear close to those of the peoples of the Lake Kutubu area. The linguistic data available seems to support his observation.

5.5. Cultural Characteristics

Culturally the groups of the Bosavi Region exhibit a much closer relationship than the linguistic diversity suggests. Located in the center of the Island of New Guinea, the entire region is covered by dense rain forest watered by over 200 inches of rain per year. The land rising from 300 feet on the Strickland Plain to 2500 feet on the Plateau consists of parallel ridges rising between innumerable streams and small rivers.

The people of the region live principally on sago and garden produce. Shifting horticultural gardening techniques necessitate considerable movement of the population as the sago in an area is used up and gardens give out. The principal crops include numerous varieties of banana, pandanus, breadfruit, and pitpit. Most of the protein comes from wild pig, cassowary, small marsupials, snakes, grubs, and fish, but these constitute a rather small portion of the total diet. Domestic pigs are kept and allowed to run loose, but as with many New Guinea peoples they are eaten primarily on ceremonial occasions.

This movement of people based upon food production tends toward a nomadic existence with people living in relatively small, isolated groupings. The social organization of all the groups is quite similar, each extended family living separately in its own long house surrounded by gardens. As the gardens are depleted, new ones are planted, and eventually the cycle begins again by the building of a new long house in association with the new gardens.

These isolated hamlets scattered throughout the dense forest are associated with other similar groups with whom the men exchange sisters for wives, get together for certain ceremonial occasions and cooperate

in military functions. The military activity of most of the people of the region consisted, until recently, of raiding parties. Often the raids were carried out at a considerable distance, the principal purpose being the desire to procure meat. The Biami seem to have been particularly successful in these activities resulting in a wide spread fear of this large language group, especially among those living on the Strickland Plain.

By looking at the linguistic evidence, we may be able to postulate that the people of the entire Bosavi region originated somewhere to the east, possibly near Lake Kutubu, and ultimately from the vicinity of the Gulf. As the people migrated westward, a split took place, some continuing westward onto the Papuan Plateau while others moved southwest around Mt. Bosavi and subsequently onto the Strickland Plain. Those who occupied the plateau eventually re-established their contact with the southern branch of the migration in the form of raiding. Though probably a relatively homogeneous group when they arrived on the Plain, the desire to protect themselves from what was apparently frequent raiding, eventually resulted in a wide distribution of peoples exhibited by the present communalect chain.

The languages of the Plateau appear to be lexically more distinct from each other than those on the Plain. This could be the result of a more rugged terrain effecting less contact among the people. This distinctness may also simply reflect the lack of conclusive data from the area.

Unfortunately the mythology of the peoples lends little support to the forgoing migration theory. Most of the origin tales relate the beginnings of each group at or near their present locality. However, the cultural similarities and the progressive change in the linguistic distribution throughout the region indicate considerable affinity of all the languages.

5.6. Classification of the Bosavian Region

The lexicostatistic material presented here indicates a number of closely related groups dispersed along the plain on the east bank of the Strickland River. Mutual intelligibility between the groups is quite high except between those at the extreme ends of the chain. This factor is a product of the degree of interaction between the groups, so that those who share geographic borders exhibit a greater degree of mutual intelligibility than those which share no boundaries. Whether these

groups classify as dialects or separate languages within a family is not readily evident from the linguistic material.

Should one view the groups as constituting a single language, then the lower limit of 77.5% (adjusted for the Swadesh 100 list and lowered to 70% for the full list) is severely violated in that the geographically extreme groups have only a 52% lexicostatistic relationship. Should one classify the groups as a family of languages, however, the sub-classification into languages becomes somewhat arbitrary.

Using the lowered percentage figure for positing a classification based upon lexicostatistics produces the results displayed in Figure 1. On this basis there would be four distinct languages. Based strictly on lexical reasons we are forced to separate Bibo from the Kubo-Samo-Honibo grouping due to the low lexical count (69%) between Kubo and Bibo. These four languages appear to group themselves on the basis of geographical location, those to the north showing a high degree of similarity which is somewhat distinct from the southern group which, in turn, displays considerable similarity, divergence having begun perhaps about 800 years ago in both groups.

Taking mutual intelligibility into consideration we turn to the application of the transportation model in relation to the communication problem as proposed by Grimes (1968). Using this model we can, for the data given here establish a mutual intelligibility threshold of twenty-five, and make the further assumption that the grammatical structures of the given languages are relatively similar. The classification based on mutual intelligibility is represented in Figure 2. Here all the groups of the Strickland Plain are compared with Samo. The groups to the south of the Carrington River show a marked similarity with a threshold of twenty-one, putting them well within the twenty-five figure set as an upper limit. Thus these four groups act as one language with four dialects.

The two groups north of the Carrington River compare with Samo at a mutual intelligibility threshold of 35 and with each other at thirty. Thus we feel these should be classed as separate languages.

In spite of the lexical distinction between Kubo and Bibo we feel that the mutual intelligibility of the two groups and the close relationship of both to Samo supports our considering them as dialects of one language.

Figure 1
Lexically Based

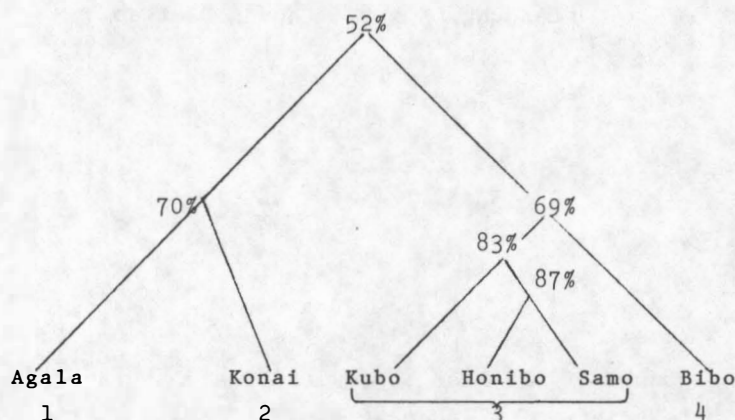
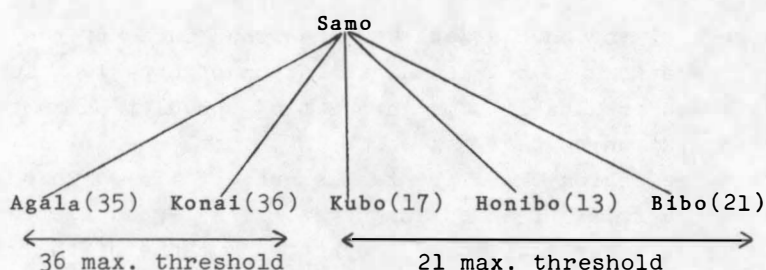


Figure 2
Mutual Intelligibility Based



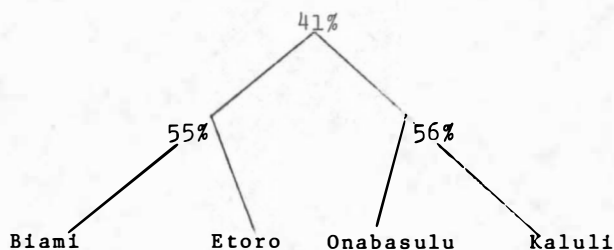
Therefore by lowering the lexicostatistic percentage required for language membership, and by accounting for mutual intelligibility, we here posit that the groups of the East Strickland Plain comprise a family composed of three languages, one of which has four dialects. Unfortunately, there is no composit local name for the Kubo-Samo-Honibo-Bibo language, as only the dialect names are used by the people.

The Papuan Plateau appears to contain four languages as displayed in Figure'3, each of which is quite distinct from the other. Kasua, which

may also belong with this group appears at present to join with the Kutubuan groups to the east.

Figure 3

Languages of the Papuan Plateau



Thus the groups of the East Strickland Plain and the Papuan Plateau appear to act as part of a language stock (CSNG) with two distinct families. Cultural relationships support the linguistic data, and serve to set the entire Bosavi area apart from other areas of Papua New Guinea.

5.7. Conclusion

Classed together, the languages of the Bosavi Region act as a linguistic and cultural unit. The languages of the Papuan Plateau show a greater affinity to the Kutubuan area than those of the East Strickland Family. Relating the present distribution of both linguistic and cultural data results in some interesting speculation on the divergence of past migration routes.

Within the region there are two language families which further divide into a total of seven languages. The Papuan Plateau Family appears to be internally more distinct than those of the Plain, but this may be a result of lack of data. The criteria for classifying the language chain of the East Strickland Plain are based upon a lowering of the lexicostatistic relationship to 77.5% for the lower limit of a language, and accounting for mutual intelligibility.

The present linguistic diversity on the Plain has been related to cultural factors, primarily raiding carried out by the Biami on the lowland peoples. It is interesting, in this respect, to compare the east and west banks of the Strickland River. Though the Pa, on the west

bank, point toward the east when discussing their origin, they must have crossed the river prior to the arrival of the Biami on the Plateau and, therefore, managed to escape the effects of raiding. The Pa presently extend over an area comparable in size to the entire language chain on the east bank with much less variation. However, the lexicostatistic divergence between the Plateau languages and the Pa is about the same (11%) as that between the Plains languages and the Pa (12%) indicating a separation of about the same length of time.

The Plains people must have arrived approximately 1000 years ago as one language. As they sought protection against raids from the Plateau peoples they gradually separated, migrating northward along the Strickland River. This movement resulted in linguistic chaining where communities exhibit a high degree of mutual intelligibility. Apparently the Strickland River to the west and the ranges to the north have acted as barriers shielding the region from intrusion from the Fly River Basin as well as from the Highlands (see 5.2. for a comparison with Pa and Duna).

Clearly more data, particularly from the Plateau, is necessary for a definite classification of the Bosavian area. It is not our intent to present the above classification as a definitive analysis of the region. Rather it is hoped that this paper will encourage research which will contribute to a greater understanding of linguistic relationships both within the region, and to the rest of Papua New Guinea as a whole.

APPENDIX A

Legend

An alphabetical list of languages and dialects of the Bosavian Stock is presented here. Each language is listed, followed (in parentheses) by the language family of which it is a member, any alternate names known to the author (or found in the literature), and finally the sources from which the material has been gathered. Abbreviations are: CMML (Christian Missions in Many Lands), SGBM (Soverign Grace Baptist Mission), APCM (Asia Pacific Christian Mission).

AGALA (East Strickland); Sinale (Telford, CMML).

AWIN-PARE (West Strickland) dialects, Bat (Capell, 1969); perhaps Awin, Akium, Ba, Pate, Minomin (Barth, 1971).

BIAMI (Papuan Plateau) Bedamini (local name used in self-reference) (Voorhoeve, 1969; Shaw).

BIBO (East Strickland) dialect of Kubo-Samo-Honibo-Bibo; Gubusi (Voorhoeve, 1968; Shaw).

BOGAYA (CSNG Stock) also Pogaia (Telford, CMML).

DUNA (CSNG Stock) (Wurm, 1960).

ETORO (Papuan Plateau) Tuguba (Roberts, SGBM); Etoro; also Kuresa, Hurusu (Butler).

HONIBO (East Strickland) dialect of Kubo-Samo-Honibo-Bibo; Aiba (Shaw). Tomu River; also Orogo groups called Patamo, Nauru, Sonia (Butler).

KALULI (Papuan Plateau) (Rule; Schieffelin, Fordham University, unpublished).

KONAI (East Strickland) Kanai (Barth, 1971); Mirapmin (by the Faiwolmin, Barth, 1971).

KUBO (East Strickland) dialect of Kubo-Samo-Honibo-Bibo; Daba (Voorhoeve, 1968; Shaw).

ONABASULU (Papuan Plateau) Waragu (Ernst, University of Michigan).

SAMO (East Strickland) dialect of Kubo-Samo-Honibo-Bibo; Supai (Voorhoeve, 1968; Shaw).

APPENDIX B

Grammatical Notes on Samo

Karen Shaw

This section gives a tentative grammatical sketch of two main aspects of the Samo language: the pronouns and the verbs. Because there are no detailed grammatical materials published on languages of the general Strickland-Mt. Bosavi area, the sketch should be useful for comparative purposes. The pronouns and verbs, for example, can be compared with not only the well known Highland languages, but also with those to the West, such as Telefolmin.

Personal Pronouns

By observing form and function three sub-classes of personal pronouns in Samo may be distinguished. These are given in Table 1.

If a clause does not contain an overt object form, Class 1 pronouns may be used to fulfill the subject function.

yq nq-bo (3rd.s.subj. eat-past) He ate.¹

¹The following phonemes occur in Samo: b,t,d,k,g,f,s,h,m,l,w,y,i,e,a,u, o,ou, and nasalisation. All of these symbols represent the usual phonetic quality as would be expected, except that o represents the phonetic [ɔ] and ou represents the phonetic [o]. In addition n (which is an allophone of l) has been added to the orthography for future transfer to the national language. The abbreviations used are as follows:

1st. first person	fut. future
2nd. second person	Y nasalised vowel
3rd. third person	subord. subordinate
s. singular	* morphophonemic change
pl. plural	~ allomorphic variation
subj. subject	A period between words indicates multi-
obj. object	word glosses.

If an object form (noun) which could not possibly function as the subject does occur, a Class 1 pronoun may still fulfill the subject function.

yq wo nq-bo (3rd.s.subj. sago eat-past) He ate sago.

If, however, the object form (noun) could conceivably function as the subject, then the pronoun which functions as subject (or follows a noun functioning as subject for clarification) must be Class 11.

yq boi nq-bo (3rd.s.subj. snake eat-past) He ate (the) snake.

sofou yq boi nq-bo (dog 3rd.s.subj. snake eat-past) (the) dog he ate (the) snake.

yq teba ou-bo (3rd.s.subj. cut. lumber hit-past) He hit (the) table. (Although the subject in this example seems to be quite obvious, the speaker refused to replace the Class 11 yq with the Class 1 yq, saying the table could have hit the man if it had fallen on him!)

If an object form (noun) is to be replaced by a personal pronoun, it must always be by a Class 1 pronoun.

yq boi nq-bo (3rd.s.obj. snake eat-past) (the) snake ate him (it).

If both the subject form (noun) and the object form (noun) are replaced by personal pronouns then the subject form would have to be replaced by a Class 11 pronoun since the object form must be replaced by a Class 1 pronoun.

yq yq ou-bo (3rd.s.subj. 3rd.s.obj. hit-past) He hit him.

Although the usual clause order in Samo is: Subject, Object, Predicate, this is not an absolute rule. If the object (or anything else in the clause) is to be focused upon, this will come first, hence the need for the above rules for pronouns.

Class 111 pronouns differ from Class 11 pronouns only in the singular. These pronouns are possessive pronouns which must be used with a noun, i.e. the noun which they possess.

The inclusive-exclusive dichotomy appears only in the first person dual forms, although there is also a Class 1 third person plural pronoun (yq) which seems to indicate *them*, but not *him* or *those others*. This distinction has not been noted elsewhere, however.

Class 1 pronouns may be affixed to show reflexive action by the reflexive marker -wq.

Table 1

Class 1 Pronouns: subject/object

Person	Singular	Dual		Plural
		Exclusive	Inclusive	
First	ə	oli	ala	oi
Second	nə		nɪli	nɪ
Third	yə		ili	yə/diyə

Class 11 Pronouns: subject

Person	Singular	Dual		Plural
		Exclusive	Inclusive	
First	ə	oliye	ala	oye
Second	nə		nɪle	nɪyɛ
Third	yɛ		ile	diyɛ

Class 111 Pronouns: possessives

Person	Singular	Dual		Plural
		Exclusive	Inclusive	
First	mo	oliye	ala	oye
Second	nɛ		nɪle	nɪyɛ
Third	ɛ		ile	diyɛ

q-wa ou-la (1st.s.subj.-reflexive hit-indefinite) *I will hit myself.*

Milo yq-wa ogo-bo (name 3rd.s.subj.-reflexive see-past)
Milo saw himself (in the mirror).

Verbs

There are two morphologically defined sub-classes of Samo verbs, determined by the method of forming the indefinite.

Class 1 verbs have the same stem for all forms of the verb and add the suffix -la for the indefinite (as well as the 1 form of all other suffixes which have allomorphs). This type of verb is the most common.

Verb Stem		Indefinite
ogo	<i>to see</i>	ogo-la <i>will see</i>
i	<i>to go</i>	i-la <i>will go</i>
biya	<i>to root</i>	biya-la <i>will root</i>
ou	<i>to hit</i>	ou-la <i>will hit</i>
ne	<i>to give</i>	ne-la <i>will give</i>

Class 11 verbs have two stem allomorphs, the last syllable of the regular stem being dropped before the indefinite affix allomorph -da (and the d form of all other suffixes which have allomorphs).

Stem 1 (with past suffix)		Stem 11 (with indefinite suffix)
folo-bo	<i>went up</i>	fo-da <i>will go up</i>
hele-bo	<i>call (an animal)</i>	he-da <i>will call (an animal)</i>
gala-bo	<i>bite</i>	go-da <i>will bite</i>
gele-bo	<i>played</i>	ge-da <i>will play</i>
dehelo-bo	<i>made</i>	dehe-da <i>will make</i>

Samo verbs may be dependent or independent, determined by affixation and use in independent or dependent clauses. Table 11 shows the dependent affixes which may be added to any verb stem. The following are examples of these dependent verbs.

- ...fesomami wodiyo i-siyo-lo mamasi he bebelo-di-lo-delo...
 (policeman back go-pl.-coordinate headmen focus line - up-
 -causative-coordinate-participial) ...the policeman turned and
 went, and the headmen having been made to line up...
- q Ugulaba i-ba, howotou-la (1st.s.subj. place go-fut.subord.
 work-indefinite) *When I go to Ukarumpa, (I) will work.*

Ugulaba i-ma, sitowa i-bo (place go-past.subord. store go-past) *When (I) went to Ukarumpa, (I) went (to the) store.*

Faliki yq-lugwe gəlq-liyo (name laugh-simultaneous.same.subj. play-present) *Ricky is laughing and playing.*

Faliki gē-dobo a yq-liyo (name play-simultaneous.different.subj. 1st.s.subj. laugh-present) *(While) Ricky is playing, I am laughing.*

ousou a ogo-lobou koma ɛlq-bo (man 1st.s.subj. see-present. subord. embedded.subj. shoot-past) *(The) man which I am seeing, shot (the pig).*

a boyo ɛlo-mediya boyo na-diyo (1st.s.subj. pig shoot-contrary.to.fact.conditional pig eat-unreal) *(If) I had shot (the) pig, (I) could/would have eaten (it).*

hqy my-liba a kiya-la (water fall-future.simultaneous.different. subj. 1st.s.subj. sleep-indefinite) *I will sleep (when) it will be raining.*

huga-ya hwa-bo (come-imperative.quote say-past) *(He) said, "Come!"*.

fesomami bebelo-lo-delo he oya-loka-lobe (policeman line up-coordinate-participial focus greet-pl-continuative) *(The) policeman having lined up, (they all as a group) saluted.*

Table II
Dependent Verb Affixes

Subjective Action		Relationship	
Verb Stem +	-di- causative	-lo ¹	coordinate (and,so,but)
	-siyo- plural (done as a group-motion verbs or verbs of being	-ba	future subordinate (if,when)
	-loka- plural (done as a group or reciprocally-action verbs)	-lobou~dobou	present subordinate
		-ma	past subordinate
		-mediya	contrary to fact conditional
		-lugwe	simultaneous, same subject
		-lobo~dobo	simultaneous, different subject, non-future
		-liba~diba	simultaneous, different subject, future
		-ya	imperative quote

¹It is possible that the coordinate affix -lo and the independent continuative affix -lobe -dobe may both be either dependent or independent, functioning on the sentence rather than clause level.

Chart III shows the independent affixes which may be added to any Samo verb stem. The stem indicates a polite imperative. The following are examples of these independent verbs.

huga (come) Come.

huga-ye (come-imperative) Come.

huga-liya (come-negative.imperative) Don't come.

ā huga-la (1st.s.subj. come-indefinite) I will come.

ā huga-lamoi (1st.s.subj. come-non-past.negative) I will not come/am not coming.

ā huga-bo (1st.s.subj. come-past) I came.

ā huga-laha (1st.s.subj. come-past.negative) I did not come.

ā huga-lomo (1st.s.subj. come-prohibitive) I will never/should not come.

ā huga-liyo (1st.s.subj. come-present) I'm coming.

ousou huga-lu (man come-report) (The) man is coming.

ki-ya hē ya-ma (here-from focus go.west-past) (We) went west from here.

ousou i-siyo-bo (man go-pl-past) (The) men went.

Bebelubi ā nā-lobi (place 1st.s.subj. eat-imperfect) I was eating/used to eat (sugar) in Bebelubi.

to-la-bu. kŷ-li ke nā (die-indefinite-definite medicine this eat) Eat this medicine, (or you) will surely die!

faleli ē uya nē-ba*-bu (airplane 3rd.s.possessive mother give-past-definite) (He) really gave (the toy) airplane (to) his mother!

hŷ hele hē do-li (water only focus have/be-past. progressive) There was only water.

biŷ go-da-badi (bee bite/sting-indefinite-probable) (The) bee might sting (you).

a Faliki dugŷ mŷ-di-la (1st.s.subj. name clothing wear-causative-indefinite) I will cause Ricky to wear clothes (dress Ricky).

Table III

Independent Verb Affixes

Verb Stem +	Aspect ¹		
	Subjective Action	Tense/Mood	Aspect ¹
	-di- causative	-lobe~dobe continuative	-bu definite
	-siyo- plural (done	-la~da indefinite	-badi probable
	as a group-motion	-ma ² past	
	verbs or verbs of	-bo ² past	
	being)	-ye imperative	
	-loka- plural (done	-liya negative imperative	
	as a group or	-lahə past negative	
	reciprocally-	-lamoi non-past negative	
	action verbs)	-lomo prohibitive	
		ʋ-liyo present	
		-li past progressive	
		-lobi~dobi imperfect	
		-lu reported	
		-diyq unreal	
		-lobəlo~dobəlo already in process	

¹Aspect has only been recorded following the indefinite -la~da or the past -bo (ba*).

²It is theorised that the difference between -ma and -bo lies above the word level, probably on the paragraph or discourse level.

no boi-yo gala-mediya to-diyq (2nd.s.object snake-actor
bite-contrary.to.fact.conditional die-unreal) (If) you had
been bitten by (the) snake, you would have died.

hqlo hwā-lo oi gelo-bu-lobe (durative.time say-coordinate
3rd.pl.subj. wait-sit-continuative) Talked (for a) while, so
we continued sitting waiting.

...ousou ebe howo-sogo-lo dimq-lo-delo home ha-lobalo (man
banana work-plant-coordinate finish-coordinate-participial
tree cut-in. process) ...having finished working planting
bananas, (the) man was already in the process of cutting trees.

sougou tiga nā-loka-lobe (tobacco tie eat-pl-continuative)
(They all as a group) continued smoking.

The indefinite affix -laʷ-ja also occurs on the first verb of a
verb phrase, in which case it acts as an infinitive.

ā i-la giyq-bo (1st.s.subj. go-indefinite desire-past)
I wanted to go.

ā wo ga-la i-liyo (1st.s.subj. sago pound-indefinite go-
present) I am going to pound sago.

hqy mý-la homý-lu (water fall-indefinite ready-report)
It is ready (about) to rain.

There are other affixes which are often added to verbs, but which
have been classified as clause level clitics, since they also occur at
the end of clauses which contain no verbs. These include such affixes
as:

- ga quoted
- go emphatic
- o yelled
- siyo overheard
- dalo reported but not seen
- ba interrogative
- delo past participial
- doba future participial

Verbs may also become nouns or locatives by the addition of affixes.

du	to hear	du-li	that which hears (ear)
howotou	to work	howotou-li	ousou man who works (servant)
to	to die	to-ma	one who has died (dead one)
fofa	to raise	fofa-ma	that which has been raised (platform or bridge)
my	to descend	my-li	the down place

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CHAPTER 6

THE KIWAIAN LANGUAGE FAMILY

S.A. Wurm

6.1. Introductory Remarks

The Kiwai or Kiwaian Family consists of a group of closely to very closely related languages which are located in coastal, near-coastal and insular areas in the Western and Gulf Districts of Papua New Guinea. They extend from Mabaduan on the south coast of the Trans-Fly area along the southern and eastern coasts of the Trans-Fly, across some of the islands of the Fly Delta to the northern bank of the Fly River and the insular, delta and coastal areas, and lower and sometimes middle, courses of the Bamu, Gama, Turama, Omati, Kikori and Era Rivers systems including some portions of the hinterland, as far as the eastern bank of Iviri Inlet.

To date, fifteen different communalects of at least divergent dialect status have been established within the Family. It appears that they can be assigned to seven distinct languages, though a reduction of this figure may perhaps be possible.

6.2. Notes on the History of Research into Kiwaian Languages

After earlier collections of short vocabularies, e.g. by D'Albertis in the Mawata dialect of Southern Coastal Kiwai (D'Albertis 1880), Ray (1907) gave a grammar sketch of Island Kiwai, some brief notes on a few other Kiwaian languages, and vocabularies of some of them. Ray (1923) provided additional information on some further Kiwaian languages, and (Ray 1931) published a quite detailed grammar of Island Kiwai. Extensive vocabularies of several Kiwaian languages were published by Riley (and Ray) (1930-31), and Riley (1931) also made a collection of texts in Island Kiwai available to the public. A. Capell, of the University of Sydney, collected

materials in several Kiwaian languages in the years before World War II and kindly made them available to the present writer in the late forties. Rev. B. Butcher compiled a manuscript grammar sketch of Kerewo before World War II which was also kindly placed at the disposal of the present writer. On the basis of these materials and the then extant published sources which included translations of Scripture in Island Kiwai (as from 1911 onwards) and in Kerewo (1946), the present writer carried out a comparative-historical study of the Kiwaian languages then known and established the Kiwaian Family (Wurm 1951). Further translations of Scripture became available in Bamu Kiwai (1952) and in Coastal Kiwai dialects and Daru Kiwai in 1965. Capell (1962) gave some notes on Kiwaian languages. In the sixties, especially in 1966, and later in 1970, the present writer carried out extensive fieldwork in the Trans-Fly and Fly Delta areas and collected sizeable materials in a number of Kiwaian languages, in particular in Coastal Kiwai dialects, Island Kiwai and Wabuda. In the late sixties, C.L. Voorhoeve of the Australian National University collected materials in Bamu Kiwai which he kindly put at the disposal of the present writer. The Kiwaian Family was included by the latter in his discussion of the linguistic situation in the Trans-Fly area (Wurm 1971a) in which also some materials were drawn upon which had been collected by K. Franklin and R. Lloyd during a linguistic survey of the Gulf District and adjacent areas which had been carried out in 1969-70 in cooperation between the Summer Institute of Linguistics, New Guinea Branch, and the Australian National University. Franklin (1968) mentions several of the northern Kiwaian languages, and discussions of the Kiwaian Family are included in Wurm 1971b and 1973a. Voorhoeve (1968) established the wider connections of the Kiwaian languages some of which had been suspected earlier by the present writer (Wurm 1951) and recognised them as members of the Central and South New Guinea Phylum (see 6.8.). McElhanon and Voorhoeve (1970) included the Kiwaian languages in their study leading to the delineation of the Trans-New Guinea Phylum, and established their membership to that large phylum. Kiwaian languages have been taken into consideration by the present writer in his studies of the linguistic problems of the Torres Strait area (Wurm 1972a) and of the problems of Papuan linguistic classification and Papuan linguistic prehistory (Wurm 1972b, 1973b). J. Harris, of the Australian National University, carried out extensive fieldwork in North-Eastern Kiwai in the mid-sixties which he is currently continuing after a prolonged break, with a view to compiling a detailed study of that language.

6.3. The Composition of the Kiwaian Family

The fifteen communalects mentioned in 6.1. are as follows:

Southern Coastal Kiwai (SC)
 Eastern Coastal Kiwai (EC)
 Daru Kiwai (Da)
 Island Kiwai (IK)
 Doumori Kiwai (Do)
 Wabuda (Wa)
 Sisiane (Si)
 Pirupiru (or Gama) (Pi)
 Middle Bamu Kiwai (Ba)
 Morigi (Mo)
 Kerewo (Ke)
 Urama (Ur)
 Gope (Go)
 Gibaio (Gi)
 Arigibi (or Anigibo, Anigibi, Ani) (Ar)

The lexicostatistical comparison of the first five communalects gives the following figures of shared cognates as based on a 200-item basic vocabulary list, with the figures corrected to a 200-item base (Thomas and Healey 1962) in those instances in which the lists employed did not contain exactly 200 items (for Eastern Coastal Kiwai, the local dialect of Sui village was chosen as a representative, for Southern Coastal Kiwai, that of Tureture, for Island Kiwai that of Ipihia with allowances made for the standardised language as used in translations of Scripture, and for Doumori that of Doumori):

SC				
91	EC			
85	83	Da		
84	89	82	IK	
82	84	82	88	Do

These figures indicate clearly that on the lexical level, these five communalects are dialects of a single language, with EC and SC closest in affinity. This is also clearly borne out by the structural characteristics of the communalects which show very much the same morphological features except that Daru Kiwai morphology is considerably simpler than that of the other dialects, though in its basic characteristics it is identical with them. Phonologically, Daru Kiwai is closest to Southern Coastal Kiwai.

In view of this situation, these five communalects are regarded as constituting the Southern Kiwai Language (Wurm 1971a) whose composition is as follows:

Southern Kiwai (SK)
 Coastal Kiwai dialects (CK)
 Southern Coastal Kiwai (SC)
 Eastern Coastal Kiwai (EC)
 Daru Kiwai (Da)
 Island Kiwai (IK)
 Doumori (Do)

When taking Island Kiwai as the representative of the Southern Kiwai (SK) Language, and establishing a lexicostatistical grid consisting of IK and the remaining ten communalects, the resulting percentages of shared basic vocabulary cognates are as follows:

IK									
66	Wa								
66	60	Si							
58	59	84	P1						
58	65	85	82	Ba					
62	54	57	59	59	Mo				
58	52	50	52	56	77	Ke			
60	59	56	52	52	64	75	Ur		
55	51	51	46	50	63	70	83	Go	
64	59	59	56	53	60	62	85	81	G1
58	50	53	53	51	61	63	77	75	72 Ar

This grid shows Sisiamé, Pirupiru and Middle Bamu to be, on the lexical level, dialects of one language. Evidence provided by the comparison of structural features appears to support this assumption to a considerable extent, and these three communalects are therefore regarded as dialects of one language, called Bamu Kiwai (BK).

At the same time, Urama, Gope and Gibaio also appear to be dialects of one language on the basis of the lexical findings. Again, this appears to be supported by the available structural evidence, and they are regarded as dialects of a single language, which may best be called North-Eastern Kiwai (NEK).

Arigibi is lexically very closely related to North-Eastern Kiwai as is evident from the percentages of shared basic vocabulary cognates which are as high as 77% for Urama-Arigibi and 75% for Gope-Arigibi. It appears

that Arigibi contains a number of loan words from neighbouring non-Kiwaian languages in its basic vocabulary which adversely affect the percentages of the cognates which it shares with North-Eastern Kiwai, and which, but for this reason, would be high enough to allow for its inclusion into North-Eastern Kiwai as another dialect. At the same time, what little information on the structure of Arigibi can be discerned from the limited materials available on it seems to indicate that it has some structural features which differ from those of North-Eastern Kiwai, though basically it is a Kiwai language. This may militate against its inclusion into North-Eastern Kiwai as a dialect. The question certainly requires further study.

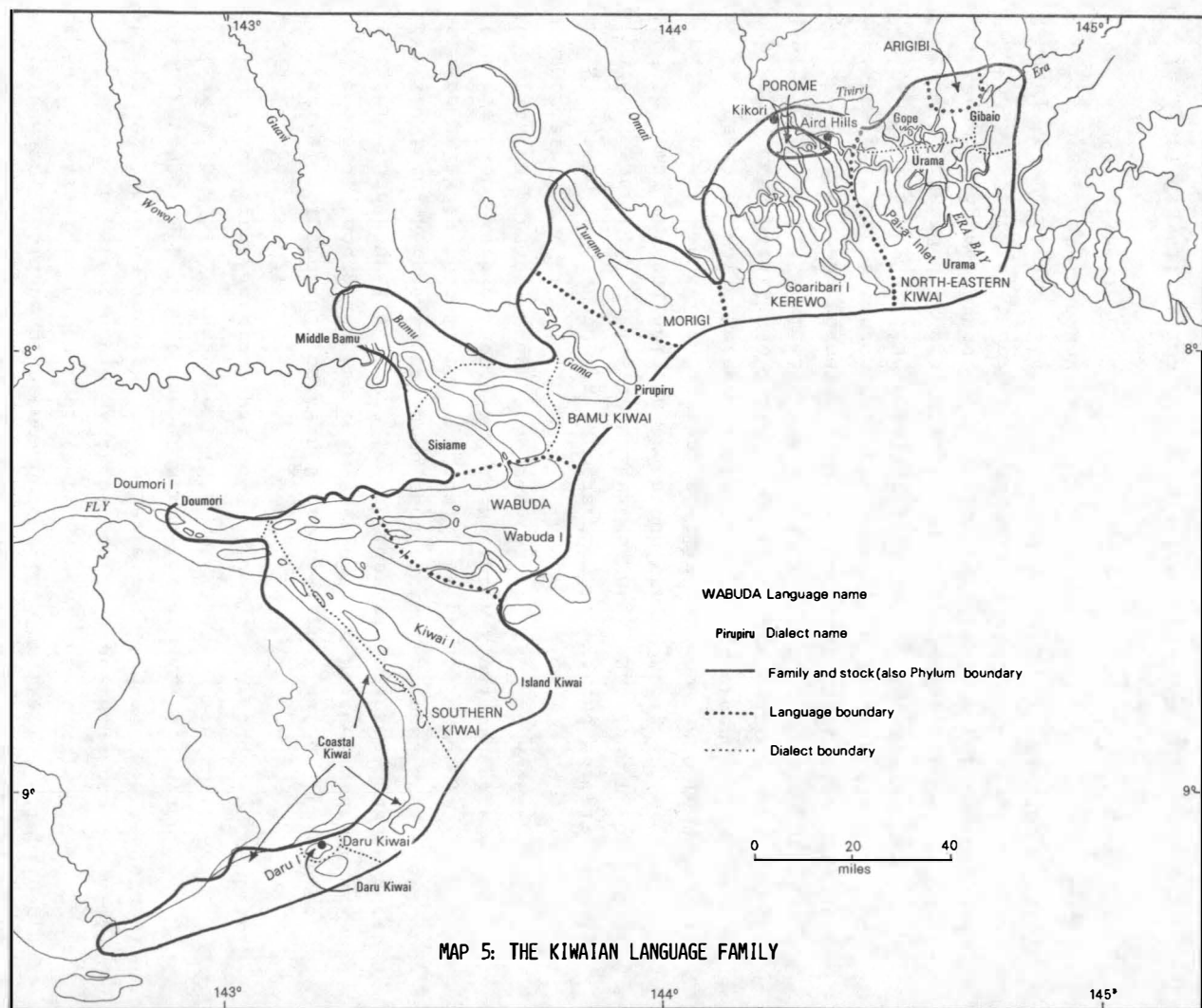
The lexical relationship between North-Eastern Kiwai and Kerewo is also very close, though less so than that between North-Eastern Kiwai and Arigibi. Structurally, there is considerable overlap between North-Eastern Kiwai and Kerewo, though some specific differences are in evidence. It appears unlikely that it may eventually be possible to combine North-Eastern Kiwai and Kerewo into a single Northern Kiwai Language - the status of two separate, though very closely related, languages seems to be appropriate for them.

The situation is different with regard to Kerewo and Morigi. The two communalects share 77% basic vocabulary cognates, and judging by the limited information available on the structure of Morigi, it seems to be very much the same as Kerewo morphologically, and to share features with Kerewo in cases in which Kerewo contrasts with all other Kiwaian languages. At the same time, Morigi contrasts with Kerewo on the phonological level in having many of its lexical items appearing in longer, more archaic forms than their Kerewo cognates which are usually drastically shortened through the elision of consonants when compared with Island Kiwai forms for instance. It may well be possible that Kerewo and Morigi can ultimately be regarded as dialects, or sub-languages, of a single Turama-Kerewo Language, though for the purpose of this paper, they will be treated as separate, though very closely related languages.

Wabuda, the remaining established communalect in the Kiwaian Family, is clearly a separate language whose closest lexical relationship is with dialects of Bamu Kiwai, though phonologically it stands rather apart.

6.4. Internal Classification of the Kiwaian Languages

In view of what has been said above in 6.3., the internal classification of the Kiwaian languages appears to be as follows (the approximate number



MAP 5: THE KIWAIAN LANGUAGE FAMILY

of speakers, on the basis of the latest available census figures, has been added to each of the languages and dialects listed, allowing for the speakers absent from their home territory):

KIWAIAN FAMILY	22,700
1) Southern Kiwai	9,700
a) Coastal Kiwai dialects	4,800
Southern Coastal Kiwai	1,800
Eastern Coastal Kiwai	3,000
b) Daru Kiwai	1,000
c) Island Kiwai	3,500
d) Doumori	400
2) Wabuda	1,700
3) Bamu Kiwai	4,400
a) Sisiame	2,850
b) Pirupiru	850
c) Middle Bamu	700
4) Morigi	700
5) Kerewo	2,200
6) North-Eastern Kiwai	3,700
a) Urama	1,700
b) Gope	1,300
c) Gibaio	700
7) Arigibi	300

This classification differs from the one given in Wurm 1971a in the following respects:

a) Morigi, and the Gama River Dialects which are now known to be Pirupiru and to belong to Bamu Kiwai, were erroneously referred to in Wurm 1971a as constituting a single dialect group which together with Kerewo was believed to form a single language.

b) Gibaio and Arigibi were not known when Wurm 1971a was written and therefore omitted from it.

6.5. Typological and Structural Features of Kiwaian Languages

6.51. Phonology

All Kiwaian languages have relatively simple phonologies which are very similar in most of them. The consonant phonemes occurring in them are p t k ʔ b d g m n r l s h w, with s and h, and r and l, mutually exclusive in most languages and dialects. The vowel phonemes encountered are a e i o u, as well as several diphthongs. Long vowels are frequent in Wabuda, and are met with in the northern languages, but are very rare or completely absent from Southern Kiwai. The suprasegmental systems are relatively complicated and manifest themselves in complex stress systems with rhythm patterns, and a two-tone system is present in all the languages, except apparently in Wabuda. Its functional load appears to be low in all the languages except for North-Eastern Kiwai and (Arigibi ?) where it seems to be quite high. The syllable structures are very simple; no consonant clusters occur (except for the very rare presence of -nd- in Kerewo) and all syllables are open. Clusters of two vowels or one vowel + diphthong are found.

Vowel-harmony phenomena affecting the vowels of affixes, especially of prefixes, are present in most Kiwaian languages and dialects and are particularly strongly in evidence in Coastal Kiwai, Doumori and Wabuda.

6.52. Morphology (and Syntax)

6.52.1. Introductory Remarks

On the morphological level, the Kiwaian languages are quite complex. They are very similar in the basic features of their morphologies, but in detail, Island Kiwai shows the greatest elaboration, with the other languages displaying morphological features which largely constitute simplified versions of the Island Kiwai pattern, with the simplification becoming progressively more evident towards the north and north-east. In addition, special forms are encountered in Wabuda and the languages further north and north-east, some of which are not explainable as the results of a simplification of Island Kiwai morphology.

In general, three main morpho-syntactic types can be distinguished on the detailed level, a) one represented by Southern Kiwai, b) the second by Wabuda and Bamu Kiwai, with some quite pronounced differences between the two languages and Wabuda especially displaying a considerable number of unique features and being the most aberrant Kiwaian language in several ways, and c) the third by Kerewo, North-Eastern Kiwai and

perhaps Arigibi, though the latter may be different again in some respects. Kerewo and North-Eastern Kiwai also show some differences when compared with each other.

6.52.2. Main Morphological (and Syntactic) Features

The main features of Kiwalian morphology (and syntax), as represented largely by Island Kiwai, are as follows:

Four numbers are distinguished in the morphology, i.e. singular, dual, trial and plural. However, in the verb morphology, only two persons, speaker and non-speaker, are differentiated, e.g. Island Kiwai: *n-eauri* = *I see one*, *r-eauri* = *you(sg)* [or *he*] *see[s] one*. Only two basic sets of free person markers occur, one for singular and one for plural - the dual and trial forms are derived from the plural forms through suffixes, e.g. in Island Kiwai:

	sg	pl	dl	tl
1	mo	nimo	nimo-to	nimo-ibi
2	ro	nigo	nigo-to	nigo-ibi
3	nou	nei	nei-to	nei-bi

Possession is expressed through the preposed free person markers which in Island Kiwai, often carry the suffix *-ro* in the first and second person singular, e.g. *mo-ro moto* = *my house*. A large range of noun (and pronoun) suffixes are met with and denote a variety of local relationships as well as the ergative. Adjuncts normally precede the words which they determine, except that in Wabuda and the languages further north and north-east, some adjuncts to verbs such as the negative marker follow the verb, e.g. Wabuda: *mo umoro-to* = *I don't know*, Bamu Kiwai (Sisiame): *mo umoro pua* = *I don't know* (but Island Kiwai: *mo pai umoro*), Kerewo: *mo o'u raihe* = *I don't go* (Island Kiwai: *mo pai ugu*), etc., and that some adjectival adjuncts follow the determined noun in Kerewo e.g. *moto mea* = *good house* (lit. *house good*) (Island Kiwai: *wade moto*). In Wabuda, also other adjuncts are found to follow the determined word in several instances, whereas in all other Kiwalian languages and dialects they precede them in such cases, e.g. *blind* = Wabuda: *kupi-damari* (*damari* = *eye*), but Sisiame: *damari-kukume*, Pirupiru: *damari-kanaufe*, Tureture Dialect of Southern Coastal Kiwai: *damari-upere*, Doumori: *damari-ududuo*, Island Kiwai: *damari-duduwo*; *north-west wind* = Wabuda: *gavia suruma* (*gavia* = *wind*), Pirupiru: *turuma fufuo* (*fufuo* = *wind*), Island Kiwai: *surama susuwo* (*susuwo* = *wind*), etc. Another special feature of Wabuda is the fact that in it the direct object

often follows the verb, while in the other Kiwaian languages it normally precedes it (but see 6.63.4. for Bamu Kiwai), e.g. Wabuda: *nimopu osidira-to kodi keregedioro* = *we do-not that work*, compare Island Kiwai: *nimogo gi moto pai eauri* = *we that house not saw*.

The verb morphology is elaborate. The verb stem, and sometimes its prefixes, undergo changes to denote non-singularity of the object, e.g. Island Kiwai: *eauri* = *see one*, *iauri* = *see more than one*, *oruso* = *eat one*, *iriso* = *eat more than one*.

Special stem suffixes indicate a variety of aspects such as punctiliarity, repetitiveness and continuity, e.g. Island Kiwai: *asidim-o* = *keep on covering one object*, *asidim-ai* = *cover one object once*, *iasidim-ai* = *cover more than one object once*, *iasidim-uti* = *cover more than one object in separate actions*; *omudo* = *drag one*, *omudo-diro* = *go on dragging one*; *odori* = *go down once*, *odori-wado* = *go down repeatedly*, etc.

Prefixes to the verb stem denote modes of actions such as spontaneity, reflexivity, application, and action with something, e.g. Island Kiwai: *aderio* = *move one thing*, *ar-aderio* = *move by itself*, *eauri* = *see one*, *er-eauri* = *see oneself*, *em-eauri* = *see, look at, one, for another* (i.e. *look after*); *ogu* = *go*, *em-ogu* = *go for one, fetch one*, *ow-ogu* = *go with one* (i.e. *take one*), etc. Combinations of more than one of these prefixes appear in many instances.

Tenses are quite numerous, for instance in Island Kiwai there are two past tenses, one present, and three futures. Tenses are indicated by tense forms of subject prefixes, together with combinations of prefixes, suffixes and tense forms of the affixes indicating the number of the subject. In many verb forms, tense is signalled several times, often first in a general form by the shape of the subject prefix - i.e. present, past or future only - which is then followed by the indication of a specific past or future tense. A tabular representation of the Island Kiwai forms may perhaps best serve as an illustration (S = Verb-stem). Though highly repetitive, it may give a clearer picture than the presentation and discussion of the individual affixes:

	present	near past
speaker	sg n-S	n-S
	dl n-S-duru-o	n-S-do
	pl n-S-duru-mo	n-S-mo
	tl n-S-bi-duru-mo	n-S-bi-mo

		present	near past
non-speaker	sg	r-S	w-S
	dl	r-S-duru-do	w-S-do
	pl	r-S-duru-mo	w-S-mo
	tl	r-S-bi-duru-mo	w-S-bi-mo
		definite past	
speaker	sg	n-S	
	dl	n-S-ru-do	
	pl	n-S-ru-mo	
	tl	n-S-bi-ru-mo	
non-speaker	sg	g-S	
	dl	g-S-ru-do	
	pl	g-S-ru-mo	
	tl	g-S-bi-ru-mo	
		Immediate future	Indefinite future
speaker	sg	n-S-ri	ni-do-S-ri
	dl	ni-do-S-ri	ni-du-do-S-ri
	pl	ni-mo-S-ri	ni-du-mo-S-ri
	tl	ni-bi-mo-S-ri	ni-bi-du-mo-S-ri
non-speaker	sg	w-	wi-do-S-ri
	dl	wi-do-S-ri	wi-du-do-S-ri
	pl	wi-mo-S-ri	wi-du-mo-S-ri
	tl	wi-bi-mo-S-ri	wi-bi-du-mo-S-ri
		Remote future	
speaker	sg	ni-mi-S-ri	
	dl	ni-mi-du-do-S-ri	
	pl	ni-mi-du-mo-S-ri	
	tl	ni-mi-bi-du-mo-S-ri	
non-speaker	sg	ri-mi-S-ri	
	dl	ri-mi-du-do-S-ri	
	pl	ri-mi-du-mo-S-ri	
	tl	ri-mi-bi-du-mo-S-ri	

As can be seen from these tables, the present, near past and definite past forms are identical in the speaker singular. Habitual forms occur in four tenses: present, near past, definite past and future. Their marker is -a- appearing after the subject prefix in the present and past tenses, and after the future marker or the subject number marker in the future. However, the combination of the tense affixes is different in the habitual present and past tenses from that met with in the non-habitual present and past tenses. The affix combinations are as follows:

		present habitual	near past habitual
speaker	sg	n-a-S-go	n-a-S-go
	dl	n-a-du-do-S-go	n-a-duru-do-S-go
	pl	n-a-du-mo-S-go	n-a-duru-mo-S-go
	tl	n-a-bi-du-mo-S-go	n-a-bi-duru-mo-S-go
non-speaker	sg	r-a-S-go	g-a-S-go
	dl	r-a-du-do-S-go	g-a-duru-do-S-go
	pl	r-a-du-mo-S-go	g-a-duru-mo-S-go
	tl	r-a-du-mo-S-go	g-a-bi-duru-mo-S-go
		past habitual	future habitual
speaker	sg	n-a-S-go	ni-d-a-S-
	dl	n-a-ru-do-S-go	ni-du-d-a-S-
	pl	n-a-ru-mo-S-go	ni-du-m-a-S-
	tl	n-a-bi-ru-mo-S-go	ni-bi-du-m-a-S-
non-speaker	sg	g-a-S-go	wi-d-S-
	dl	g-a-ru-do-S-go	wi-du-d-a-S-
	pl	g-a-ru-mo-S-go	wi-du-m-a-S-
	tl	g-a-bi-ru-mo-S-go	wi-bi-du-m-a-S-

In the future habitual, the final suffix varies between -ri ~ -go ~ 0, with 0 most common with singular subject. -ri is more frequently found in non-speaker non-singular forms than in speaker non-singular ones. A few instances have been found in which in non-speaker non-singular forms, -ri appears at the end of the prefix combination and (-ri)-go after S, e.g. Island Kiwai: wi-du-m-a-ri-imoso-go = *they will habitually throw them out* = ([non-speaker subject in future form]-[future]-[pl subject]-[habituality]-[future]-[throw out more than one]-[future-habitual marker]), wi-du-m-a-ri-iarug-uti-ri-go = *they will habitually speak (many things on many occasions)* = ([non-speaker subject

in future form]-[future]-[pl subject]-[habituality]-[future]-[say more than one thing]-[action carried out in separate actions, one at a time]-[future]-[future-habitual marker]]. This phenomenon may be interpreted as denoting emphasis on the future habituality.

It may be mentioned briefly that Island Kiwai has a large range of different imperative forms denoting actions ordered to be carried out immediately, or in the near future, or at some future time, or repeatedly, or habitually, or as something that must or should be done, or as something whose performance is only advised and not definitely ordered. The forms differ according to the number of persons addressed. A number of permissive and conditional forms exist as well, but the detailed discussion of these forms would go beyond the scope of this paper.

A characteristic feature of the Kiwalian languages is the fact that the elaboration of the verb forms as discussed above is restricted to the affirmative. In the negative, only two basic forms occur in most of them, one denoting present and past, and one the future. For instance, in Island Kiwai, the verb base without any tense and subject (but with object number) affixes preceded by *pai* is used to indicate the present or past negative, e.g. *nou pai agiwai dubu-gibo* = *he did not give one to the man* = *he negative (give-one) man-to*. At the same time *pai* plus the verbal noun which is formed by prefixing *k-* to the verb base, denotes the future negative. In the latter, *-go* is always suffixed to the verb base, and the number of the subject shown by the suffixes *-toribo-* = *dl*, *-bi-* = *tl* and *-potoro- ~ -θ-* = *tl* or *pl* before *-go*, e.g. *mo pai k-ogu-go* = *I will not go*, *nimoto pai k-ogu-toribo-go* = *we two will not go* = *(we-two) negative ([verbal noun marker]-[go]-[dl subject]-[special marker])*. In Island Kiwai: *pai* + habitual present forms are used to indicate the cessation of a habitual action, e.g. *nou pai r-a-iriso-go* = *he does not eat (these things) any more*. Omission of the suffixes denoting the number of the subject (in this case of non-singular subjects) in such negative habitual forms appears to indicate a straight negation of the habituality, e.g. *nei pai r-a-eregedio-go* = *they do not work* *h a b i t u a l l y* = *they negative ([non-speaker subject in present form]-[habituality]-[work]-[habitual marker])*.

A comparable paucity of negative forms exists in the imperative forms: only an ordinary and a strong prohibitive are present.

As has been mentioned above, the verb stem in the Kiwalian languages undergoes changes to denote non-singularity of the object. This applies to all verb forms, and in addition, special suffixes are added to the verb base to indicate duality or triality of the object. In all

Kiwaian languages, these suffixes are -(a)ma- = dl and -bi- = tl, e.g. Island Kiwai: iauri-ama = *see two*, iauri-bi = *see three*. At the same time, the person of the object is indicated by the subject-object portmanteau prefix n- only if the speaker is the object, and the non-speaker the subject, e.g. nimoto iga-n-itamudiro-ama-ri = *will you one teach us two?* = (you-two) ([affirmative interrogative]-[speaker object]-[teach more than one]-[dl object]-[future] (absence of other tense and subject number markers indicates immediate future and non-speaker singular subject, absence of the ergative marker from the free person marker denotes that it is the object, not the subject)).

The combination of the affixes can lead to quite lengthy verbal forms, e.g. Island Kiwai: g-a-bi-duru-mo-iw-ar-atate-ai-ama-go = *in the near past, they (or you) three had the habit of removing many, two at a time* = ([non-speaker subject in past form]-[habituality]-[tl subject]-[near past marker with non-singular subjects in habitual forms]-[more-than-two subject marker]-[action with, implying more than one object]-[reflexive]-[move]-[single action]-[dl object]-[habitual marker]) (atate-ai = *move something in a single action*, ar-atate-ai = *move oneself in a single action*, ow-ar-atate-ai = *move oneself with one something else in a single action* = *remove one something in a single action*, iw-ar-atate-ai = *remove many in a single action*); ri-mi-bi-du-mo-i-odi-ai-ama-ri-go = *in the remote future, they (or you) three will definitely string two bows at a time* = ([non-speaker subject in remote future form]-[remote future]-[tl subject]-[future]-[more-than-two subject marker]-[more-than-one object]-[string bow]-[single action]-[dl object]-[future]-[emphasis]) (odi-ai = *string a bow once*, i-odi-ai = *string several once*, -go = emphasis).

Of other verbal forms in Kiwaian languages, only the occurrence of a number of prefixes and particles may be mentioned which appear before the subject markers (except for the incomplete verb marker -og- in Island Kiwai which follows them) and denote assertion or certainty (Island Kiwai: ai-), completion of an action (tau-), incompleteness of an action (-og-), repeated action (amu-), actual performance or succession of actions (aime-), affirmative (ai, ra-, iga-, igara-) and negative (pura-) interrogation, temporal condition (ina-), etc; e.g. Island Kiwai: nimoto-go netewa dubu-toribo ai-n-iwia-ma-ru-do = *we two have certainly found two men* = (we-two-ergative) two (man-dl)-([assertion]-[speaker-subject]-[find more than one]-[dl object]-[past]-[dl subject]); dubu-ro tau-g-arogo = *the man said* = (man-ergative) ([completion]-[non-speaker subject in definite past form]-[speak]);

nou-ro neito aime-g-og-irosodorai-ama = *and then he started to leave them two* = (he-ergative) (them-two) ([successive action]-[non-speaker subject in definite past form]-[incomplete action]-[withdraw oneself from several objects = leave several]-[dl object]); nei soriomo amu-g-osiodiro-ru-mo = *they made a feast again = they feast* ([repeated action]-[non-speaker subject in definite past form]-[make one]-[past]-[plural subject]); nei uwo-rudo ina-g-oriboa-ru-mo nei-go aime-g-iauri-ama-ru-mo = *when they awoke, they (then) saw them-two = they (sleep-from)* ([when]-[non-speaker subject in definite past form]-[awake]-[past]-[pl subject]) (they-ergative) ([successive action]-[non-speaker subject in definite past form]-[see more than one]-[dl object]-[past]-[pl subject]); oro-ro iga-r-iauri-bi = *do you-one see them-three?* = ([you-one in ergative stem form]-ergative) ([affirmative interrogation]-[non-speaker subject in present form]-[see more than one]-[tl object]); oro-ro pura-eauri = *don't you-one see (one)?* = ([you-one in ergative stem form]-ergative) ([negative interrogation]-[see in negative single object form]).

In the Kiwaian languages, a number of classificatory verbs exist which function as auxiliaries and, placed after nouns, form verbal expressions. Noun + auxiliary are treated as a verb stem for the purpose of the addition of person, tense and other affixes, e.g. Island Kiwai: uba-go owai = *cause trouble = (bad-emphasis)* ([come with] = do), e.g. ai-g-a-bi-ru-mo-uba-go-ow-ai-wado-go = *they three were certainly repeatedly causing trouble as a habit* = [assertion]-[non-speaker subject in past form]-[habituality]-[trial subject]-[definite past marker in habitual forms]-[more-than-two subject]-[bad]-[emphasis]-[with-come = do]-[repeatedly]-[emphatic].

6.6. Remarks on the Individual Kiwaian Languages and Dialects

6.6.1. Southern Kiwai

Southern Kiwai which has approximately 9,700 speakers, consists of four different main dialects at least one of which, Coastal Kiwai, has two, or perhaps even more, sub-dialects. Further studies are needed to establish the exact number and distribution of the Coastal Kiwai dialects. In addition of sub-dialects, every village in which Coastal Kiwai is spoken, has its own distinct local dialect or sub-sub-dialect - a statement which applies throughout the Kiwaian languages area to a varying degree, though it is perhaps more pronounced in Coastal Kiwai, and in Bamu Kiwai, than in the other language and dialect areas.

6.61.1. Coastal Kiwai Dialects

The local dialects spoken in villages on the southern and eastern coasts of the Trans-Fly area, and the eastern portion of the southern bank of the Fly Delta together constitute the Coastal Kiwai Dialect of Southern Kiwai. A division into at least two, perhaps more, sub-dialects seems possible:

1) Southern Coastal Kiwai

This sub-dialect of Coastal Kiwai is spoken in the villages of Mabaduan, Mawata and Tureture in the eastern part of the south coast of the Trans-Fly area, by a total of approximately 1,800 speakers. As has been mentioned in 6.4., the figures given for each dialect and language include speakers absent from their home territories - quite a large number of Southern Coastal Kiwai dialect speakers live in the "village corners" on Daru.

2) Eastern Coastal Kiwai

This Coastal Kiwai sub-dialect, which may in the light of further study, perhaps be further sub-dividable into regional dialects, is spoken in the villages of Katatai, Parama, Sui, Dawari, Sewerimabu, Koabu, Madame and Wederehiamu (the latter two are in part Eastern Coastal Kiwai - Tiroio bilingual villages) on the eastern coast of the Trans-Fly area and on the right bank of the Fly Delta by a total of about 3,000 speakers which gives a total of approximately 4,800 speakers of Coastal Kiwai.

The main available materials on Coastal Kiwai are Ray's (1907, 1923) notes and vocabularies, the present writer's notes (Wurm 1951), Capell's (1962) notes and unpublished materials collected by him, Riley's (and Ray's) (1930-31) vocabulary in the Tureture local dialect of Southern Coastal Kiwai, some duplicated translations of Scripture published in 1965, and the present writer's extensive field notes in Tureture.

The Coastal Kiwai dialects contrast with Island Kiwai in a few phonological features such as the appearance of Coastal Kiwai: *h* for Island Kiwai: *s*, especially in Southern Coastal Kiwai, e.g. Tureture: *ohio* = *boy*, *buhere* = *girl*, *hepate* = (*external*) *ear*, *hairu* = *leg*, *oruho* = *eat one* are the equivalents of Island Kiwai: *osio*, *besere*, *sepate*, *sairo* and *oruso*. In a number of instances in which more than one *s* appears in an Island Kiwai word, the corresponding sounds in the

Southern Coastal Kiwai equivalents are *t*, with *h* for the last of the Island Kiwai *s*-sounds, e.g. Island Kiwai: *susase* = *armlet*, *asesopu* = *armpit*, *ososo* = *break skull* have the Tureture equivalents *tutahe*, *atehepu* and *otoho*. Vowel harmony affecting affixes (see 6.51.) is more strongly in evidence in Coastal Kiwai than in Island Kiwai. Morphologically, the Coastal Kiwai dialects are quite similar to Island Kiwai as discussed in 6.52.2., but their verb morphology is somewhat simpler, and verbal noun forms formed by *k+S* sometimes appear instead of tense forms. At the same time, the appearance of tense markers in verb forms with non-singular subjects (see 6.52.2.) tends to be optional if the context is clear.

6.61.2. Daru Kiwai

The Daru Kiwai dialect of Southern Kiwai is spoken on Daru Island by the long-resident population - people living in the village corners speak the dialects and languages of their respective home villages. The total number of speakers of this dialect is about 1,000, but it is understood and spoken as a lingua franca by many of the village corner residents. It is also used in broadcasts by Daru radio station.

Materials on this dialect consist of Government notices and instructions, duplicated portions of Scripture, and extensive fieldnotes collected by the present writer.

Phonologically, Daru Kiwai is nearly identical with Southern Coastal Kiwai. However, its morphology is greatly simplified when compared with Coastal Kiwai, extensive use is made of verbal nouns in place of tense forms, tense markers in verb forms with non-singular subjects are much more rarely used than in Coastal Kiwai, the dual and trial object markers are largely optional and the tense system is simplified. It appears that the loss, or only rare optional use, of much of the elaborate Kiwaian morphology in Daru Kiwai may be due to a pidginization process attributable to its extensive use as a lingua franca.

6.61.3. Island Kiwai

The Island Kiwai dialect of Southern Kiwai is spoken in the villages of Saguane, Oromosapuo, Ipisia, Agobara, Samari, Sagasia, Iasa, Wopa'ura, Kubira, Doropo and Sepe on Kiwai Island in the Fly Delta by about 2,600 speakers, and in local dialectal variants in the village of Aibinio on Aibinio Island and in those of Aberegerema, Kename and Wariobodoro on the left bank of the Fly (the last one constituting an

Island Kiwai-Wabuda transition dialect and a link between Southern Kiwai and Wabuda) by approximately 900 speakers which gives a total of about 3,500 speakers of Island Kiwai.

This dialect has become the standard form of Southern Kiwai through its early use in missionary work, and the publication of sizable portions of Scripture in it as early as 1911, with the whole New Testament appearing in 1960. It has attracted the interest of linguists at an early date (e.g. Ray 1907, 1931) and to date, is the most thoroughly studied form of Kiwian.

The main materials available on Island Kiwai are Ray's (1907, 1923) notes, Ray's (1931) grammar, Riley's (and Ray's) (1930-31) vocabulary, Riley's (1931) texts, the present writer's (Wurm 1951) and Capell's (1962) notes and unpublished materials collected by Capell, translations of Scripture (see the above paragraph) and the present writer's extensive field notes.

As has been pointed out in 6.52.1., Island Kiwai shows the greatest morphological elaboration of the Kiwian languages and dialects, with the other Kiwian morphologies constituting to a varying extent, more or less simplified versions of Island Kiwai morphology.

The features of Island Kiwai have been described in considerable detail in 6.5.

6.61.4. Doumori

The Doumori Dialect of Southern Kiwai is spoken in the village of Doumori on Doumori Island located in the western part of the Fly Delta, and in Pagona village on the left bank of the Fly, downstream from Doumori Island, by a total of about 400 speakers.

The main materials available in Doumori are Ray's (1923), Capell's (1962) and the present writer's (1951) notes, Riley's (and Ray's) (1930-31) vocabulary, unpublished materials collected by A. Capell and members of the Unevangelized Field Mission at Wasua, and the present writer's field notes.

Phonologically, Doumori is very much like Eastern Coastal Kiwai, but one characteristic differentiating feature of Doumori is the appearance of *e* for Coastal Kiwai and Island Kiwai: *ai* and *a'i*, e.g. Coastal and Island Kiwai: *pai* = negative, has the Doumori equivalent *pe*. Similarly, Island Kiwai: *sa'i* = *sun* corresponds to *he* in Doumori. As in Coastal Kiwai, vowel harmony affecting verbal affixes is quite pronounced in Doumori.

Morphologically, Doumori is very much the same as Island Kiwai, though a few special forms appear in it.

6.62. Wabuda

The Wabuda language is spoken in the villages of Dameratamu and Gesoa on Wabuda Island in the Fly Delta, in Wapi on Aibinio Island, and in the villages of Mabuduo, Kovisi and Sagero on the left bank of the Fly Delta. It is also spoken in the villages of Tivere and Maipani on Dibiri Island, but the latter is, to some extent, a Wabuda-Bamu Kiwai bilingual village, and, as has been mentioned in 6.61.3., the dialect spoken in Wariobodoró on the left bank of the Fly constitutes an Island Kiwai-Wabuda transition dialect. The total number of Wabuda speakers is about 1,700.

The main materials available on Wabuda are Ray's (1923), the present writers (Wurm 1951) and Capell's (1962) notes, Riley's (and Ray's) (1930-31) vocabulary, and fieldnotes collected by the present writer.

On the phonological level, Wabuda differs quite markedly from the other Kiwaian languages in displaying what appear to be archaic features in the phonological shapes of many of its lexical items, in possessing many long vowels which are absent from or rare in other Kiwaian languages, especially in Southern Kiwai, and in apparently lacking a tonal system. At the same time, vowel harmony affecting affixes (see 6.51.) is rather strongly in evidence in Wabuda.

The archaic features in the phonological shapes of words as referred to above manifest themselves in the appearance, in many instances, of -k- or -t- in places where in other Kiwaian languages a glottal stop is found between two vowels or two vowels adjoin each other without an intervening consonant (or merge into one vowel), or at the beginning of Wabuda words whose equivalents in other Kiwaian languages begin with a vowel, e.g. *water* = Wabuda: ko:bo, Southern Kiwai, Bamu Kiwai, Kerewo, North-Eastern Kiwai, etc. *obo*; *fire* = Wabuda: ke:ra, Southern Kiwai, Bamu Kiwai, Kerewo: era; *fruit* = Wabuda: kiko:pu, Southern Kiwai, Bamu Kiwai, Kerewo: iopu; *heavy* = Wabuda: mi:kibo, Southern Kiwai, Bamu Kiwai: mi'ibo; *sit* = Wabuda: -o:mitoti, Coastal Kiwai and Island Kiwai: omioi; *board* = Wabuda: pata:kere, Island Kiwai: pe'ere; *send* = Wabuda: -ami:ritati, Island Kiwai, Coastal Kiwai, Bamu Kiwai: emeriai, Doumori: emerie.

In a number of cases, Wabuda: -t- corresponds to -w- in other Kiwaian languages, especially in the final syllables of verb stems, e.g. *stand up* = Wabuda: -otobota, Island Kiwai: otobowa; *split* = Wabuda: -abogota, Island Kiwai: abogowa; etc.

In some instances, intervocalic -r- is found in Wabuda whereas in the equivalents in other Kiwaian languages the two vowels adjoin each other or merge into one, e.g. *sun* = Wabuda: sa:riki, Middle Bamu: sai'iki, Sisilame and Pirupiru: saiki, Island Kiwai: sa'i; *knot* = Wabuda: moropo, Island Kiwai: mopo; etc.

Several affixes in Wabuda appear in archaic forms when compared with their equivalents in other Kiwaian languages, e.g. the verbal noun prefix: Wabuda: ka-, Island Kiwai, Coastal Kiwai, Bamu Kiwai, Kerewo: k-, (e.g. Wabuda: ka-o:mitoti > ka:mitoti, Island Kiwai: k-omioi = *sitting*); single action: Wabuda: -ati, Island Kiwai, Coastal Kiwai: -ai, Doumori: -e (e.g. Wabuda: ami:rit-ati, Island Kiwai: emeri-ai, Doumori: emeri-e = *send once*); etc.

On the morpho-syntactic level, Wabuda together with Bamu Kiwai, forms a distinct type within the Kiwaian languages (see 6.52.1.), but within this type, differs from Bamu Kiwai in several respects and constitutes the most aberrant language when compared with the other Kiwaian languages. One specific feature of Wabuda in which it contrasts with Bamu Kiwai, is the fact that some adjuncts follow the determined word (see 6.52.2.) instead of preceding it which is the Kiwaian norm, except that some adjuncts to verbs such as the negative marker follow the verb in Bamu Kiwai and the Kiwaian languages further north and north-east, and also in Wabuda, (see 6.52.2.) and that some adjectival adjuncts tend to follow the determined noun in Kerewo (see 6.65.). At the same time, the direct object often follows the verb in Wabuda whereas in the other Kiwaian languages its normal position is before the verb, except that in Bamu Kiwai it sometimes also follows the verb (see 6.52.2.).

A number of nouns appear in Wabuda with word-building suffixes whose exact functions are not yet clear, whereas their equivalents in other Kiwaian languages have no such suffixes, or have formally different suffixes, e.g. *skin* = Wabuda: tama-kere, Southern Kiwai, Bamu Kiwai, Kerewo: tama; *tooth* = Wabuda: ibu-poka, Island Kiwai: ibua-nara, Coastal Kiwai, Bamu Kiwai: ibu-noro, North-Eastern Kiwai: ibo-ne; *night* = Wabuda: ne-kere, Bamu Kiwai: ne-ke, Southern Kiwai: ne; etc.

Similarly, the Wabuda equivalents of some of the verb prefixes denoting modes of action (see 6.52.2.) are formally different from those encountered in other Kiwaian languages. For instance, the spontaneity prefix which is Vr- (with vowel harmony) in most Kiwaian languages, is pu- in Wabuda in some cases, e.g. *die* = Wabuda: pu-isia-ro, Island Kiwai: or-isiai (<-isia-ai?), Coastal Kiwai: or-ihiai, Kerewo: o'-ihiai.

A number of aspect suffixes are present in Wabuda which are not found in other Kiwaian languages such as -ro indicating sudden action, e.g. pu-isia-ro = *die (suddenly)*; -go denoting completed action, e.g. g-agadi-go = *he cut it off*, oro n-omogu:ro-go = *I have come for you = (you (I-[come for]-completion))*; -mo indicating completed action, with another action following, e.g. g-oro-mo = *he entered and...*; etc.

The suffix -pu plays an important part in Wabuda morphology. Its basic function appears to be that of an emphasis marker, though when added to nouns, it often simply appears to be a nominalizer (e.g. uriko-pu = *spirit*), and added to verbal forms, it functions as an assertion marker - as such, it is frequently used with negative forms which, in Wabuda, are denoted by the suffix -to (with some vowel harmony features), e.g. nute a:ga:-to-pu = *they two did not say = (they two) (say-negative-assertion)*.

The principles underlying the formation of the tense forms in Wabuda are basically the same as those described for Island Kiwai in 6.52.2., and several of the subject prefixes and tense markers appearing in verbal forms with non-singular subjects are the same as in Island Kiwai, but there is less elaboration of future tenses. Also the indication of non-singular objects follows the Island Kiwai pattern. However, a set of prefixes different from those which have been described for Island Kiwai in 6.52.2. (and which are in part also met with in other Kiwaian languages) appears before the subject markers to denote aspects and modes some of which are not specially marked by prefixes or particles in Island Kiwai and other Kiwaian languages, except for some in Bamu Kiwai. Of these, ta + speaker subject marker and to- + non-speaker subject marker denote actions which are continuing at a certain time or are part of a sequence of actions, e.g. wisa to-g-arug-u:ti-ro nimo-pu osidira-to kodi k-eregedio-ro (<ka-eregedio-ro) = *the rain is falling continuously and we do not do that work = rain ([continuing action]-[non-speaker subject in past form]-[fall]-[action carried out in separate actions, one at a time]-[sudden action: i.e. each of the separate actions occurring suddenly]) (we-emphatic) (do-negative) that [verbal noun marker]-[work]-[special verbal noun suffix])*. Another such prefix is po- ~ pi- (vowel harmony) + speaker subject marker and pa- + non-speaker subject marker (or p- + verb stem with subject marker omitted) which indicates an action that constitutes the background action (English *while, as soon as*) for other actions which are taking place, e.g. wisa e-p-arug-u:ti-ro ni mo:to-wa p-ud-u:ti nimo-pu osidira-to-pu kodi k-eregedio-ro

(*<ka-eregedio-ro*) = *while* (or *as soon as*) *the rain is falling and coming into this house we do not do that work* = (rain ([assertion]-[background action = *while, as soon as*]-*fall*-[action carried out in separate actions, one at a time]-[sudden action: i.e. each of the separate actions occurring suddenly]) *this (house-into)* ([background action = *while*]-[*come in*]-[action carried out in separate actions, one at a time]) (*we-emphatic*) ([*do-negative-emphatic*]) *that* ([verbal noun marker]-[*work*]-[special verbal noun marker]); *pi-n-ikarama:di-duru-mo* = *while (as soon as) we are seeing them* = ([background action = *while, as soon as*]-[speaker subject]-[*see more than one thing*]-[present marker with non-singular subjects]-[*more-than-two subject marker*]). Another such prefix is *sa:-* + speaker subject marker, and the non-speaker subject marker *-t-*, which indicates an action which succeeds another action, e.g. *kubuse-re e-p-ogu:ro-mo sa:-t-ud-u:ti-ro se:a sa:-t-imira-mo moto-rudo...* = *as soon as the fellow came, he came in, took the chairs from the house and...* = (*fellow-ergative*) ([assertion]-[background action = *as soon as*]-[*come*]-[completed action with other action following]) ([successive action]-[non-speaker subject]-[*come in*]-[action carried out in separate actions, one at a time]-[sudden action]) *chair* ([successive action]-[non-speaker subject]-[*take more than one*]-[completed action with other action following]) [*house-from*]; etc.

In view of the aberrant phonological and morpho-syntactic features of Wabuda and the archaic phonological shapes of many of its lexical items, it seems possible that the present speakers of Wabuda originally spoke another language and adopted an old form of Kiwaian at some time in the past, preserving in the process some of the features of their original language in it.

6.63. Bamu Kiwai

The local Kiwaian dialects spoken in villages of the Bamu Delta and Bamu River area as far inland as beyond the point at which the Guavi and Wawoi Rivers merge to become the Bamu River, and in the villages of the Gama River area, together constitute Bamu Kiwai which has approximately 4,400 speakers. According to our present state of knowledge, it is sub-dividable into at least three dialects, Sisiame, Pirupiru (or Gama) and Middle Bamu (see 6.3.). Each of these appears to have several sub-dialects. Further studies are needed to establish the dialect structure of Bamu Kiwai more fully.

6.63.1. Sisiame Dialect

The Sisiame Dialect which is numerically the main dialect of Bamu Kiwai occupies the Bamu Delta and hinterland areas, i.e. mainly Aramia, Uapumba and Navio Islands as well as some of the country south and north of Aramia Island, and north of Uapumba Island. It is spoken in the villages of Sisiame 1 and Sisiame 2 on Aramia Island, in those of Oropai, Aniada, Torobina, Bina 1 and Bina 2 on Uapumba Island, in Wario village on Navio Island, in the villages of Amagoa, Etere, Asaramio and Tapapi south of Aramia Island, and in those of Soger, Wokau, Bamio, Bunigi, Upati, Darave and Sibara north of Aramia and Uapumba Islands by a total of about 2,850 speakers.

6.63.2. Pirupiru Dialect

The Pirupiru (or Gama) Dialect of Bamu Kiwai is located south of the lower Gama River, and along the lower and middle courses of that river. It is spoken in the villages of Pirupiru 1, Pirupiru 2 and Ibo in the former area, and in those of Maisave, Gamaki-Magive, Giwaretore, Gimereme, Nemeti, Airua, Binori and Ukusi-Kopirami in the latter by a total of about 850 speakers.

6.63.3. Middle Bamu Dialect

The Middle Bamu Dialect of Bamu Kiwai constitutes the inland dialect of the latter and extends from the north-western end of Aramia Island upriver to beyond the confluence of the Guavi and Wawoi Rivers, with the Bamu River Mission and Emeti Patrol Post lying in its area. It is spoken in the villages of Miruo, Bimaramio, Kuria, Matakala, Iowa and Gagoro by a total of about 700 speakers, but in spite of its relative numerical insignificance, it has become the standard form of Bamu Kiwai through its use by the Bamu River Mission and the publication of translations of Scripture in it in 1952.

6.63.4. Notes on Bamu Kiwai

In view of the relative paucity of information on the Bamu Kiwai dialects, it appears best to discuss them together under a single heading. The main materials available on them are Ray's (1923), the present writer's (Wurm 1951) and Capell's (1962) notes, Riley's (and Ray's) (1930-31) vocabularies of Sisiame and Pirupiru, unpublished materials collected by Capell in all dialects and by C.L. Voorhoeve in the

Middle Bamu dialect, as well as translations of Scripture (1952) and the present writer's field notes in Sisiame.

On the phonological level, the phonological shape of lexical items of Bamu Kiwai displays a mixture of three types: a) archaic forms comparable to, though usually less archaic than, Wabuda forms (e.g. *sun* = Sisiame and Pirupiru: *saiki*, Middle Bamu: *sai'iki*, Wabuda: *sariki*, Island Kiwai: *sa'i*), b) forms which are comparable to Island Kiwai ones, often with some sound changes (e.g. *woman* = Bamu Kiwai: *orobo*, Island Kiwai: *orobo*; *wind* = Pirupiru: *fufuwo*, Island Kiwai: *susuwo*), and c) forms which are comparable to those occurring in the Kiwaian languages spoken further north and north-east, i.e. are shortened and characterized by the elision of consonants or their replacement by glottal stops, and the contraction of two vowels into one (e.g. *go* = Bamu Kiwai: *ou*, Island Kiwai: *ogu*; *give* = Sisiame: *aiwai*, Island Kiwai: *agiwai*). This phenomenon is explainable in terms of assumed past migrations of Kiwaian speakers northwards from the Fly Delta and the coastal Trans-Fly areas (see 6.7.).

Of the sound changes referred to above, the appearance of *f*, especially in Pirupiru, for *s* in other Kiwaian languages, in particular Island Kiwai, may be mentioned, e.g. *eat* = Pirupiru and Sisiame: *oufo*, Island Kiwai: *oruso*; *wind* = Pirupiru: *fufuwo*, Island Kiwai: *susuwo*. Middle Bamu shows *h* or *s* when *f* appears in Sisiame and Pirupiru, e.g. *knee* = Sisiame: *kaufio*, Pirupiru: *kaufi*, Middle Bamu: *kauhio*; *dream* = Sisiame: *fiwo*, Pirupiru: *fiuwo*, Middle Bamu: *siwo*. In some Pirupiru words, *h* corresponds to *r* in Southern Kiwai, e.g. *die* = Pirupiru: *ohisiai*, Island Kiwai: *orisiai*. In some Sisiame and Pirupiru words, *b* corresponds to Southern Kiwai *p* as is the case in Kerewo (see 6.65.), e.g. *tongue* = Sisiame: *ototobe*, Pirupiru: *otobe*, Island Kiwai: *watotorope*, Kerewo: *mototobe*.

In other respects, Bamu Kiwai phonology is much more like that of other Kiwaian languages than that of Wabuda. Long vowels are rare, and a two-tone system appears to be present.

On the morphological level, Bamu Kiwai shares a number of features with Wabuda in contrast with other Kiwaian languages such as the appearance of the prefix *po-* (Wabuda: *pu-*) to indicate spontaneity in place of the usual Kiwaian *Vr-* (with vowel harmony), e.g. *die* = Middle Bamu: *po-irai* (<*po-iri-ai*), Wabuda: *pu-isia-ro*, Island Kiwai: *or-isi-ai*. Also the aspect prefix *ta-* + speaker subject marker and *to-* + non-speaker subject marker (or in Bamu Kiwai also *ta-* + verb stem with subject marker omitted) which has been described above in 6.62. for Wabuda and which denotes actions which are continuing at a certain time or are part of a

sequence of actions, occurs frequently in Bamu Kiwai. It is usually preceded by the marker *ia-* denoting actual performance or succession of actions (it corresponds to Island Kiwai: *alme*), e.g. Middle Bamu: *dubu a-g-oro-ho nou-ro ia-to-g-iauri-ama dubu-teibo* = *the man walked along and he saw two men...* = *man* ([assertion]-[non-speaker subject in past form]-(*he-ergative*) ([marker of actual performance or succession of actions]-[action is part of a sequence of actions]-[non-speaker subject in past form]-[*see more than one*]-[dl object]) (*man-dl*); *dubu-ro ia-to-g-irumai-ma samoto ia-to-g-ou-do dubu abo-ito* = *the man called them two and immediately they two went to the man* = (*man-ergative*) ([marker of actual performance of succession of actions]-[action is part of a sequence of actions]-[non-speaker subject in past form]-[*call more than one*]-[dl object]) *immediately* ([marker of actual performance or succession of actions]-[action is part of a sequence of actions]-[non-speaker subject in past form]-[*go*]-[dl subject] *man* (*side-to*); etc. Similarly, the aspect marker *po-* + subject marker as described for Wabuda in 6.62. as denoting background actions also appears in Bamu Kiwai.

In Bamu Kiwai, the direct object follows the verb sometimes instead of preceding it as is the norm in the other Kiwaian languages except for Wabuda (see 6.52.2.), but this phenomenon is not as common in Bamu Kiwai as in Wabuda. It is for instance found in the above sentence *dubu agoro-ho nou-ro iatogiauriama dubuteibo* = *the man walked along and he saw two men* as given in the above paragraph.

As in the case with Wabuda, the formation of the tense forms and the indication of non-singular objects in Bamu Kiwai is basically the same as that described for Island Kiwai in 6.52.2. and there is considerable formal agreement with Island Kiwai in the shape of the affixes involved. However, there is less elaboration: for instance in Middle Bamu, the non-speaker subject prefix is *g-* in both the near and definite past forms, in contrast to Island Kiwai in which it is *w-* in the near past and *g-* in the definite past (see 6.52.2.), e.g. Bamu Kiwai: *g-ou-do* = *they two went recently*, *g-ou-ru-do* = *they two went* (definite past); Island Kiwai: *w-ogu-do* = *they two went recently*, *w-ogu-ru-do* = *they two went* (definite past).

6.64. Morigi

The Morigi language is located in the Turama Delta, including Morigio Island, and on the Lower Turama. It is spoken in the villages of Dadebi, Erehe and Haragu on Morigio Island, in Ekeirau Village on

the north bank and in Gibu village on the south bank of the Turama Delta, and in the villages of Misiki, Kesemubu and Meagio in the Lower Turama area by a total of approximately 700 speakers (including absentees).

The main materials available on Morigi are Ray's (1907, 1923), the present writer's (Wurm 1951) and Capell's (1962) notes, unpublished materials collected by Capell and a wordlist collected during the 1969-70 linguistic survey of the Gulf District and adjacent areas (see 6.2.).

As has been pointed out in 6.3., Morigi is very closely related to Kerewo, though differing from it on the phonological level, and further studies may make it possible to classify the two communalects as dialects, or sub-languages, of a single Turama-Kerewo or Morigi-Kerewo language.

One characteristic phonological feature of Morigi is the appearance of *l* for *r* in other Kiwaian languages, especially Southern Kiwai, e.g. *boy* = Morigi: *mele*, Island Kiwai: *mere*; *husband* = Morigi: *ulamu*, Island Kiwai: *uramu*; etc. To illustrate the abovementioned (see 6.3.) problem of the phonological shape of Morigi words in comparison to other Kiwaian languages, the following examples may be given: a) instances in which Morigi corresponds more closely to Southern Kiwai and contrasts with Kerewo: *woman* = Morigi: *olobo*, Island Kiwai: *orobo*, Kerewo: *obo*; *pig* = Morigi: *bolomo*, Island Kiwai: *boromo*, Kerewo: *bomo*; *eye* = Morigi: *itamali*, Island Kiwai: *damari*, Kerewo: *ldomai* (this item is transitional between the Southern Kiwai and Kerewo forms); b) instances in which Morigi corresponds more closely to Kerewo and contrasts with Southern Kiwai (such instances are much rarer than those illustrated under a) above): *buttocks* = Morigi: *po*, Kerewo: *bo'o*, Island Kiwai: *posirigo*; *night* = Morigi: *duo*, Kerewo: *duo*, Island Kiwai: *duwo*; *fish* = Morigi: *na*, Kerewo: *na*, Island Kiwai: *irisina*; etc.

What little information is available on Morigi morphology seems to indicate that Morigi is very much the same as Kerewo on the morphological level, and agrees with Kerewo in some cases in which the latter is in contrast with other Kiwaian languages.

6.65. Kerewo

The Kerewo language is located in the Lower Omati River and Delta area, on Goaribari Island, the western part of the Kikori Delta in the region of the Newberry, Nakari and Auro River systems, around the town of Kikori in the north, and on the islands in the delta. In the northern part of its territory it includes an enclave of the unrelated

Porome language isolate.

Kerewo is spoken in the villages of Kemi and Ai'idi'o west of the mouth of the Omati River, in Pai'ia'a 1 village on the Omati River, in the villages of Goari and Dopima on Goaribari Island, in those of Moinamu and Ubuo on the Newberry River, in Aimahe village opposite Goaribari Island, in Mumuria village near Kikori, in the Kerewo-Porome bilingual villages of Babaguina and Paile on Veiru Creek (the Upper course of the Newberry River), in Samoa village on the Upper Auro River, in Avi'ou'a village on Ibibuari Island, and in the villages of Koriowo, Kaimapu'u and Iowa (now apparently deserted) by a total of approximately 2200 speakers, including absentees.

The main materials available on Kerewo are Ray's (1923), the present writer's (Wurm 1951) and Capell's (1962) notes, a manuscript grammar sketch compiled by Rev. B. Butcher, unpublished materials collected by Capell, a wordlist collected during the 1969-70 linguistic survey of the Gulf District and adjacent areas (see 6.2.), translations of Scripture (1946) and field notes collected by the present writer.

On the phonological level, Kerewo is characterised by the fact that many of its words are drastically shortened through the elision of consonants and the coalescence of resulting adjacent identical vowels when compared with Kiwaian languages further south, especially Island Kiwai. Especially g, r and initial n- in Island Kiwai words tend to be absent, or to correspond to a glottal stop in their Kerewo equivalents, whereas Island Kiwai s often corresponds to h in Kerewo as it does in Southern Coastal Kiwai. In fact, a number of Kerewo words correspond to those in Coastal Kiwai in contrast to Island Kiwai which is explainable in terms of past migrations from the southern part of the Kiwaian area into the present Kerewo area (see 6.7.). A few examples may be given: *speak* = Kerewo: aro, Island Kiwai: arogo; *people* = Kerewo: oubi, Island Kiwai: arubi; *mother* = Kerewo: mamu, Island Kiwai: maramu; *eat* = Kerewo: iho, Island Kiwai: oruso = *eat one*, *iriso* = *eat more than one*, Tureture local dialect of Southern Coastal Kiwai: oruhu = *eat one*, *iriho* = *eat more than one*; *we* = Kerewo: imo, Island Kiwai: nimo (but *louse* = Kerewo: nimo, Island Kiwai: nimo); *heart* = Kerewo: gi'opu, Island Kiwai: giroopu; *buttocks* = Kerewo: bo'o, Island Kiwai: posirigo (Wabuda: poko, Middle Bamu: poro); *sun* = Kerewo: hewio, Tureture: hiwio, but Island Kiwai: sa'i; etc. Of other sound correspondences observable, the following may be mentioned as examples: Kerewo n sometimes corresponds to r in other Kiwaian languages except Morigi which also has n, e.g. *hot* = Kerewo: enaena, Island Kiwai: eraera,

Urama and Gope dialects of North Eastern Kiwai: eraera, Gibaio dialect of North Eastern Kiwai: era'a, Morigi: enaena; Kerewo t sometimes corresponds to r in other Kiwaian languages except Morigi (and sometimes one or the other of the North Eastern Kiwai dialects) which has t, e.g. *garden* = Kerewo: bati, Island Kiwai, Sisiame, Pirupiru: pari, Morigi: bati, Urama: wati; Kerewo b often corresponds to p in other Kiwaian languages except sometimes Morigi and occasionally one of the North Eastern Kiwai dialects which have b (or w), e.g. *garden* (see the above example); *buttocks* = Kerewo: bo'o, Island Kiwai: posirigo, Wabuda: poko, Middle Bamu: poro, Morigi: po, Urama: ba; Kerewo m- sometimes corresponds to w- ~ θ in other Kiwaian languages, e.g. *tongue* = Kerewo: mototobe, Island Kiwai: watotorope, Wabuda: watopere, Sisiame: ototobe; etc.

On the morpho-syntactic level, Kerewo is somewhat closer to the Southern Kiwai pattern as described for Island Kiwai in 6.52.2. than Wabuda and Bamu Kiwai (see 6.62. and 6.63.). It has fewer aberrant forms and the ones occurring differ from those observable in Wabuda and Bamu Kiwai in form and function. The principles underlying the formation of the tense forms and the indication of non-singular objects are basically the same as those described for Island Kiwai in 6.52.2., and there is considerable formal similarity in the markers themselves. However, there is markedly less elaboration in general.

The position of the object follows the Southern Kiwai pattern in preceding the verb (see 6.52.2.), and most adjuncts precede the determined word as in Southern Kiwai, except for the negative markers which follow the verb as in Wabuda and Bamu Kiwai (see 6.62. and 6.63.), and for the fact that adjectival adjuncts including some numerals tend to follow the determined noun, such as *moto mea* = *good house* (lit. *house good*) (Island Kiwai: *wade moto* as mentioned in 6.52.2.) *pe neewa na'u* = *three canoes* (lit. *canoe two one*).

In detail the following may be mentioned: There are at present, one past and two future tenses in Kerewo. The formation of the present tense closely resembles that described for Island Kiwai in 6.52.2., with n- indicating the speaker subject and r- the non-speaker subject. However, the present tense marker with non-singular subjects is -du-, not duru- as in Island Kiwai, e.g. *imo-o neewa na'u ai-n-imidai-bi-du-mo* = *we take three* = (*we-ergative*) *two one* ([assertion]-[speaker subject]-[take more than one]-[tl object]-[present marker with non-singular subjects]-[more-than-two subject marker]) (Island Kiwai: *nimo-go netewa na'u ai-n-imidai-bi-duru-mo*). In the past tense, the speaker subject is denoted by n- and the non-speaker is mostly θ, though sometimes r- appears, as in the

present, and the non-singular subject past tense marker is -u, e.g. nei-o iauri-mama-u-mo = *they saw two* = (*they*-ergative)-([*see more than one*]-[dl object]-[past marker with non-singular subjects]-[more-than-two subject marker]). In the two future tenses, the singular subject marker n- is used and the non-singular marker r- appears in the immediate future and w- in the indefinite future. The suffix -i is added to the verbal complex in the latter future. The formation of the future tenses differs from that observable in Island Kiwai (see 6.52.2.), i.e. the immediate future is denoted by the suffixation of -dai to the verbal complex which appears in the present tense form, e.g. mo-ro ai-n-aro-dai = *I will speak immediately* = (*I*-ergative) ([*assertion*]-[*speaker subject*]-[*speak*]-[*immediate future marker*]); imo-o ai-n-imidai-mama-du-mo-dai = *we shall immediately take two* = (*we*-ergative) ([*assertion*]-[*speaker subject*]-[*take more than one*]-[dl object]-[present marker with non-singular subjects]-[more-than two subject marker]-[immediate future marker]). The markers of the indefinite future are as follows:

speaker	sg	n-a(i)-S
	dl	n-a(i)-do-S-i
	pl	n-a(i)-mo-S-i
	tl	n-a(i)-bi-mo-S-i
non-speaker	sg	w-a(i)-S-i
	dl	w-a(i)-do-S-i
	pl	w-a(i)-mo-S-i
	tl	w-a(i)-bi-mo-S-i

Example: neibi-o ai-w-ai-bi-mo-imidai-mama-i = *they three will take two* = ([*they three*]-[ergative]) ([*assertion*]-[non-speaker subject marker in indefinite future form]-[indefinite future]-[tl subject]-[more-than-two subject marker]-[*take more than one*]-[dl object]-[indefinite future]).

One special feature of Kerewo is the fact that the trial object marker -bi- does not appear if the subject is in the dual or trial, e.g. imeiti-o neewa na'u ai-n-imidai-du-do = *we two take three* = ([*we two*]-[ergative]) [*two one*] ([*assertion*]-[*speaker subject*]-[*take more than one*]-[present marker with non-singular subjects]-[dl subject]).

The past and present negative is indicated by the particle biahai (= *not*) which is placed after the verb base without tense and subject affixes (but with object number suffixes), or by the suffixation of -tato (= *without*) to the verb base + subject number suffixes only, e.g.

you (pl) do not see two is *rio-o iauri-ama biahai* = ([*you pl*]-[*ergative*]) ([*see more than one*]-[*dl object*]) *not*, or *rio-o iauri-ama-mo-tato* = ([*you pl*]-[*ergative*] ([*see more than one*]-[*dl object*]-[*more-than-two subject*]-[*without*])). The future negative is denoted by the particle *raihe* = *future not* which is placed after the verb stem (+ object number markers), with *-do* indicating *dl*, *-bi tl* and *-mo pl* subject, e.g. *imo o'u-mo raihe* = *we will not go* = *we* ([*go*]-[*pl subject*]) (*future not*).

The imperative forms in Kerewo are much simpler than in Island Kiwai for instance (see 6.52.2.) - one affirmative and one negative imperative forms are present.

Kerewo has a special purposive form which is the verb stem (with object number indication) + the suffix *-oi*. In the Kiwaian languages further south the purposive is denoted by the verbal noun + a direction suffix; e.g. Kerewo: *nou ouro iopu imoh-oi* (<*imoho-oi*) = *he came to seek fruits* = *he came fruit* ([*seek more than one*]-[*in order to*]) (Island Kiwai: *nou g-oguro iopu k-isora-gido* = *he* ([*non-speaker subject in definite past form*]-[*come*]) *fruit* ([*verbal noun marker*]-[*seek more than one*]-[*for*])).

6.66. North-Eastern Kiwai

The local Kiwaian dialects spoken in the villages situated in the Middle Tiviri, Lower Aiai, Wapo, Beru and Era River systems areas including Pai-a Inlet, Era Bay and Iviri Inlet, together constitute North-Eastern Kiwai which has approximately 3,700 speakers. It is sub-dividable into three dialects, Urama, Gope and Gibaio (see 6.3.)

6.66.1. Urama Dialect

The Urama Dialect which is numerically the main dialect of North-Eastern Kiwai occupies the southern two-thirds of the region described above in 6.66. i.e. the Pai-a Inlet, Era Bay and Iviri Inlet areas, including Uramu and Ini Islands, as well as in the Lower Wapo, Baru and Lower Era Rivers areas. It is spoken in the villages of Damaibari, Veraibari in the Pai-a Inlet area, in Gauri village on the Lower Aiai River, in those of Kivaumai 1, Kivaumai 2, Mirimairau, Larimia, Abigai, Maiaki, Tovei, Kinomere and Omaumere on Uramu Island, in Moravamu village in the south of Ini Island, and in Mairipepea village at the northern tip of Ini Island at the confluence of the Wapo, Era and Baru Rivers, by a total of approximately 1,700 speakers, including absentees.

6.66.2. Gope Dialect

The Gope Dialect of North-Eastern Kiwai occupies the north-western section of the North-Eastern Kiwai language area, i.e. the Middle Tiviri and Middle Wapo River areas. It is spoken in the villages of Wowobo, Gipi, Homobawi, Meagoma, Ubuo and Minagoiravi by a total of approximately 1,300 speakers.

6.66.3. Gibaio Dialect

The Gibaio Dialect of North-Eastern Kiwai is located in the north-eastern part of the North-Eastern Kiwai language area, i.e. the Middle and Upper Era River area. It is spoken in the villages of Giori, Aurei, Imeia, Aimei, Veiamu, Nahorome, Goiravi and Era-Maipua by a total of approximately 700 speakers.

6.66.4. Notes on North-Eastern Kiwai

As is the case with the Bamu Kiwai dialects (see 6.63.4.), it seems best to discuss the dialects of North-Eastern Kiwai under a single heading. The main materials on them are Ray's (1923), the present writer's (Wurm 1951) and Capell's (1962) notes, unpublished materials collected by Capell, word lists collected in Urama, Gope and Gibaio during the 1969-70 linguistic survey of the Gulf District and adjacent areas (see 6.2.), the present writer's field notes, and extensive materials collected in the field by J. Harris mainly in the Urama dialect (see 6.2.).

On the phonological level, North-Eastern Kiwai is very similar to Kerewo with regard to the shortening of words through the elision of consonants and the coalescence of resulting adjacent vowels. In some instances in which consonants such as *g*, *r* etc. are preserved in Kerewo, they are absent or replaced by a glottal stop in North-Eastern Kiwai, e.g. *mouth* = Kerewo: *puru'o*, Urama and Gope: *pu'o*; *bow* = Kerewo: *gagari* (Island Kiwai: *gagari*), Urama and Gope: *ga'ai*; etc. One special characteristic of North-Eastern Kiwai is the fact that many of the homophones or near-homophones resulting from the shortening of words are distinguished by suprasegmental features including tones. Long vowels are more common than in the other Kiwaian languages (except for Wabuda, see 6.62.), and the two-tone system which is a feature of the Kiwaian languages except for Wabuda (see 6.51.) seems to have a much higher functional load than the low one observable in other Kiwaian

languages (except perhaps for Arigibi, see 6.67.). Stress features yet to be studied in detail in North-Eastern Kiwai and the other Kiwaian languages may play a part in this. Examples: Gibaio: 'ò:bò = *woman* (Island Kiwai: 'òròbò), ò'bó = *water* (Island Kiwai: 'òbó); Urama: hà'má = *type of arrow*, 'háma = *stingray*; ùró = *claypot*, úrò = *wet season*; etc. The problem of the suprasegmental features of North-Eastern Kiwai, and in fact of the Kiwaian languages as a whole, calls for much further study and J. Harris' results (see 6.2.) may materially contribute to its solution.

In some cases, *r* in North-Eastern Kiwai words corresponds to *n* in their equivalents in other Kiwaian languages, e.g. *sleep* = North-Eastern Kiwai: uro, all other Kiwaian languages except Arigibi: uwo, Arigibi: uro. Gope usually has *m* corresponding to Urama and Gibaio *w* which usually corresponds to common Kiwaian *w*, though sometimes the opposite is the case, e.g. *day* = Gope: himio, Urama and Gibaio: hiwio, Southern Coastal Kiwai (Tureture): hiwio, Kerewo: hewio; *laugh* = Gope: mari, Urama and Gope and all other Kiwaian languages: wari; etc. but *moon* = Gope: ome, Urama and Gibaio: owe, Bamu Kiwai: sagomi, Wabuda: sogomi. In Gibaio, *k* appears sometimes for Urama and Gope *h*, e.g. *smoke* = Gibaio: kutu, Urama and Gope: ahuta (Bamu Kiwai: Sisame and Middle Bamu: gahua, Pirupiru: gafua; Arigibi: a'uta). Gibaio sometimes has *n* for Urama and Gope *r*, and Gope sometimes *r* for *n* in Urama and Gibaio (which corresponds to common Kiwaian *n*), e.g. *you*(sg) = Gibaio: no, Urama and Gope: ro, all other Kiwaian languages (except Morigi and Arigibi): ro or oro, Morigi: lo, Arigibi: no; *louse* = Gope: rimo, Urama and Gibaio: nimo, all other Kiwaian languages and dialects (except Pirupiru): nimo, (Pirupiru: moto). (It may be pointed out that J. Harris (personal communication) mentions the possibility of a merger of *n* and *r*, and *m* and *w*, in Gope). In some instances, *-m-* appears in North-Eastern Kiwai dialects in cases where most other Kiwaian languages have *-b-*, e.g. *cloud* = Gope: tumo, Gibaio: omo (Urama: tu'o), Southern Kiwai: tobore, Bamu Kiwai: toboro, Morigi: tuboro, but Kerewa: ori, Wabuda: tema, Arigibi: omo'omu.

Morphologically, North-Eastern Kiwai appears to largely correspond to the Kerewo pattern as described in 6.65., though there seems to be a further simplification of the morphology when compared with Island Kiwai (see 6.52.2.). So, for instance, the non-speaker subject marker is *ø* both in present and past, not only in past as in Kerewo (see 6.65.), e.g. Gibaio: wowo'o ai-ebua-ka = *the bird is flying* = *bird* ([assertion]-

[*fly*]-[continuing action]) (Kerewo: *papagama ai-r-aubo* = *bird* ([assertion]-[non-subject marker in present form]-[*fly*])). Information on the exact nature of North-Eastern Kiwai morphology is being compiled by J. Harris (see 6.2.) and a discussion of some details of it are better left until his results are available. Suffice it to add that there are some special forms in the verb morphology of North-Eastern Kiwai which are not met with in Kerewo, for instance the aspect suffix *-ka* which indicates continuing action, e.g. Gibaio: *nu ai-idio-ka* = *he is drinking* = *he* ([assertion]-[*drink more than one*, i.e. *gulps*]-[continuing action]).

6.67. Arigibi

The Arigibi (or Ani) language is located north of the Gope area on the Upper Wapo River. It is spoken in the three villages of Waitari, Tetenui and Epegau by a total of approximately 300 speakers.

The only material available on Arigibi at this stage is a wordlist collected by R. and J. Lloyd during the 1969-70 linguistic survey of the Gulf District and adjacent areas (see 6.2.).

The status of Arigibi as a separate Kiwaian language is somewhat in doubt, and it may well prove to be another North-Eastern Kiwai dialect. Its lexical relationship to the other North-Eastern Kiwai dialects is very close to the dialect-language border (see 6.3.), and the presence of loan words from non-Kiwaian languages in its basic vocabulary seems to be responsible for pushing the relevant percentage figures of shared basic vocabulary cognates below that crucial limit. Phonologically it is very similar to the Gibaio dialect of North-Eastern Kiwai and agrees with North Eastern Kiwai dialects in many cases in which the latter contrast with other Kiwaian languages (see 6.66.4.). The only perhaps significant contrasts between Arigibi and North-Eastern Kiwai appear in what very little can be learned about Arigibi morphology from the word-list mentioned above. For instance it seems that the aspect suffix *-ka* of North Eastern Kiwai is absent from it, but another suffix *-bu ~ -mu* indicating a durative and encountered in Urama is present in it. The question of the exact status of Arigibi is a subject for further study.

6.7. Kiwaian Language Migrations in the Past

The appearance of a number of differing sets of intra-Kiwaian sound correspondences in the individual Kiwaian languages as shown by the few examples given above in the various sections shows the presence of several

different strata or layers in individual Kiwaian languages, with these strata apparently attributable to different time-periods. This problem has been studied in detail by the present writer a long time ago (Wurm 1951) on the basis of the then available restricted materials, also taking into account information on neighbouring non-Kiwaian languages. Information and materials which have become available during the last two decades on the various language groups involved have provided corroboration for many of the present writer's original assumptions and the following tentative picture can be presented of the possible spreading of the Kiwaian languages in the past:

It is clear from the present writer's (Wurm 1951) and Voorhoeve's (1968 and personal communication) studies that the Kiwaian languages show strong connections with languages of groups located in the Upper Fly River area, especially with those of the Ok and Awin-Pare Families. The nature of these links, and those between the Kiwaian languages and languages belonging to neighbouring groups, especially in the Trans-Fly area, may make it appear very likely that the original Kiwaian speakers constituted a group with Upper Fly River linguistic connections which travelled down the Fly River to the Fly Delta area (Wurm 1971a). There their language seems to have come under prolonged, strong influence of Trans-Fly languages, especially of that ancestral to the present-day Eastern Trans-Fly Family. This influence apparently resulted in lexical items and structural features of those languages entering the Kiwaian language(s) to such an extent that the latter can, from the present-day point of view, be included into one stock with the Trans-Fly languages (Wurm 1971a), though they stand apart from them in several respects, especially in lexical and structural characteristics still linking them with the Upper Fly River language groups, and may originally well have been genetically unrelated to the ancestral Trans-Fly languages. It seems that the influence has gone the other way too, and the Trans-Fly languages show distinct signs of strong Kiwaian influence, especially those of the Eastern Trans-Fly Family. At the same time, it seems that the ancestors of the present-day Wabuda speakers whose language can today be classified as an aberrant member of the Kiwaian Family, originally spoke a different language and adopted an old form of Kiwaian, which had already been subjected to strong Trans-Fly linguistic influence, preserving some features of their original language in the process (see 6.62.).

During and after their first immigration, the Kiwaian languages

appear to have spread southwards along the eastern and southern coasts of the Trans-Fly area and north to the Bamu and Gama Rivers area, with considerable influence from the Kiwaianized Wabuda language present in the latter region.

Subsequently, further language migrations seem to have carried Kiwaian languages to the north and north-east from the original dispersal area in the Fly Delta, and from the coast of the Trans-Fly. Traces of more than one such migration are evident in the northern and north-eastern languages in the differing shapes of lexical items which indicate direct links with different parts of the southern Kiwaian language area (Wurm 1951), and also in the presence of loan words from different non-Kiwaian languages from the far south in northern and north-eastern Kiwaian languages.

The Kiwaian languages apparently came under the influence of non-Kiwaian languages in the north and north-east which in addition to their taking over lexical items from these languages, seem to have contributed to the phonological and morphological simplification of the present northern and north-eastern Kiwaian languages (see 6.65., 6.66.4. and 6.67.).

6.8. Wider Connections of the Kiwaian Languages

More than two decades ago, the present writer recognised the existence of some connections of the Kiwaian languages with the Marind language much further west, with the Miriam language on the eastern islands in Torres Strait, with Upper Fly River languages and the Binandere language in the northern part of the eastern tail end of New Guinea, and the Koiari language and some of its relatives in the southern central part of that tail-end (Wurm 1951). In view of the rudimentary state of Papuan linguistics at that time, no explanation for these connections could be offered by him for the latter two cases, though he attempted to put forward explanations for the first three.

Voorhoeve, in his first attempt at a wide classification of languages of much of the central and southern part of the New Guinea mainland which led to the establishment of the Central and South New Guinea Phylum by him (Voorhoeve 1968), recognised the Kiwaian Family as one of the members of this phylum. While at that stage, he looked upon the Kiwaian Family as a member of a stock which constituted very much the greater part of the phylum - a view which the present writer largely accepted when, in 1968, he was compiling the manuscript for Wurm 1971b - he

changed this view considerably in 1969 as a result of additional classificatory work involving the languages in question. In this 1969 classification which has been summarised in the Appendix part of Wurm 1971b, he assigned stock-level family status to the Kiwaian Family as well as to several other families in the Trans-Fly and Fly River areas. More studies were carried out by Voorhoeve in late 1969 and early 1970 which enabled him to include the languages of the Trans-Fly area, except for those of the Kiwaian Family, into a single super-stock, i.e. marginally into a single stock, with the Kiwaian languages relationally just outside its orbit.

The present writer carried out extensive field work in Trans-Fly languages in 1970, and the assessment of his results and of earlier materials made possible the inclusion of all the languages of the Trans-Fly area (except for Suki) and of those of the Kiwaian Family into a single large Stock named the Trans-Fly Stock (Wurm 1971a) which comprised five families. At the same time, the findings concerning Kiwaian and Trans-Fly linguistic prehistory as briefly mentioned above in 6.7. were established and led to the assumption that the relationship between the Kiwaian languages and the remaining languages of the Trans-Fly Stock might perhaps be only secondary, i.e. originally not genetic in nature (see 6.7.).

When writing the manuscript for Wurm 1971b in 1968, the present writer had included the Central and South New Guinea Phylum of which the Kiwaian Family has been recognised as a member (see above) into the Central New Guinea Macro-phylum which, as established by him, occupied three-quarters of the New Guinea mainland and consisted of a number of distantly interrelated phyla. However, studies carried out by McElhanon and Voorhoeve (1970) led to the establishment of much closer interrelationships between several of the phylic members of this macro-phylum than had previously been believed to be the case, and made possible their inclusion into a single very large phylum, named the Trans-New Guinea Phylum. Studies carried out subsequently by the present writer (1972b, 1973a, 1973c) resulted in the inclusion of all previous phylic members of the Central New Guinea Macro-Phylum into a new extended version of the Trans-New Guinea Phylum which went beyond the border of the previous Central New Guinea Macro-Phylum and consisted of a number of sub-phyla one of which occupied the very major central portion of the phylum, whereas the others which were in many ways more or less aberrant, were much smaller and located marginally. The Trans-

Fly sub-phylum-level stock of which the Kiwaian Family is a member, is one of these. This makes the Kiwaian languages aberrant members of the largest group of Papuan languages established to date.

Simultaneously with this work, additional work in linguistic prehistory with a view to establishing past language migrations in the New Guinea area were carried out (Wurm 1972b, 1973a, 1973b). It threw additional light on the past language migrations which ultimately led to the ancestral Kiwaian language migrating from the Upper Fly River area into the Fly Delta region at a comparatively recent date, perhaps not more than three to four thousand years ago, thus establishing one of the extreme limits of the spread of Trans-New Guinea Phylum languages through the New Guinea mainland.

APPENDIX

The following is a list of names given in earlier sources as names of Kiwian languages or dialects, as far as these names can be identified.

BAIA (*Annual Reports of British New Guinea* 1890-91): probably Pai'ia'a 1 village in Kerewo language area.

BARU (*Annual Reports* 1890-91): probably a deserted village (Bora) on the southern bank of the Turama River, Pirupiru dialect area, Bamu Kiwai.

BUNIKI (Ray 1923): Bunigi village in Sisime dialect area, Bamu Kiwai.

DIBIRI (Ray 1923): Island between north bank of the Fly and the Bamu River in the Wabuda language area.

DOMORI (Ray 1923): Doumori dialect of Southern Kiwai.

ERA (*Annual Reports* 1890-91): Era River.

HIWI } (Ray 1923): two languages spoken in several villages north
HIBARADAI } of the northern bank of the Fly River north of Damera village.
They are said to be probably Kiwaian, but word lists from the
Annual Report 1920 show them to be Waia, a language apparently
belonging to the Pahoturi River Family of the Trans-Fly Stock.
The Kiwaian Family also belongs to that stock.

IWAINU (*Annual Reports* 1890-91): believed to be the name of a tribe in the village of Gigori. In Gibaio dialect area, North-Eastern Kiwai.

KUBIRA (*Annual Reports* 1890-91): village on Kiwai Island in Island Kiwai dialect area, Southern Kiwai.

OROPAI (*Annual Reports* 1890-91): village in Sisime dialect area, Bamu Kiwai.

PEREM (Ray 1907): Parama village in Eastern Coastal Kiwai Sub-dialect area, Southern Kiwai.

UMAIDAI: probably Mawadai, a no longer existing village listed as Hibaradai speaking in Ray 1923.

WARIADAI: one of the Hiwi speaking villages (see Hiwi). No longer extant.

Loukotka (*Classification des langues papoues, Lingua posnaniensis* 6. 19-83, 1957) contains a number of names allegedly referring to Kiwaian languages and dialects. The following are identifiable:

ASARAMI: Asaramio village in Sisiame dialect area, Bamu Kiwai.

SEGARA: Sagero village on Sagero Island in Wabuda language area.

Other names given by Loukotka, and also in other earlier sources, and said to be referring to Kiwaian languages and dialects are not identifiable. They are probably the names of now abandoned villages.

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CHAPTER 7

OTHER LANGUAGE GROUPS IN THE GULF DISTRICT AND ADJACENT AREAS

Karl J. Franklin

7.1. Introduction

Linguistic facts on the area inland between and along the Turama and Kikori Rivers (see Maps 1 and 4) have been available in a limited form for some time. As early as 1890 a word list of Dumu, with some accompanying phrases, was recorded by Bevan. However, due to a continuous depopulation of the whole area, coupled with apparent cross-migrations, the complete linguistic picture has been obscure. At present only four distinct languages can be verified, despite the many names which have been recorded and listed for the area. Three of these languages are closely related, but the fourth is more distantly related to the other three. There has been considerable culture contact between these groups as well as probable linguistic borrowing from surrounding groups.

7.2. Kairi

The best known language in the Kikori area is Kairi, or Dumu as Capell (1962) calls it. Approximately 650 people in the Kikori Kairi C/D speak Kairi. The villages are generally north of the town of Kikori lying along the Kikori, Sirebi, and Tiviri Rivers, but also as far north as the Iehi creek. The main villages are: Kopi, Waira, Kaparao, Mati, Irimuku, and Imu. Kopi is the largest village, with over 200 people in residence; less than twenty live at Tutugi. According to Nigel Gore, then with the Middle Kikori Mission, in 1959 the Kairi people also lived to the East at the Aurai village. The Kairi language has also been used as a trade language by the people living between the foothills of Mt. Murray and the sea.

7.21. Lexicostatistical Figures

Kairi is classified as a Family-level isolate called the East Kikorian Family, but it is obviously a member of the greater stock which includes the Turama-Omatian Family. The following table of percentage relations, based on the Swadesh 100 word list, indicates the degree of relationship of Kairi and surrounding languages, as well as the inter-relationship of the languages with which Kairi is compared.

Table 1

Kairi (KRI)									
16	Omati (OMT)								
16	49	Ikobi (IKR)							
13	48	72	Mena (MNA)						
8	8	9	11	Kaluli (KLL)					
8	5	2	2	0	Kerewo (KWK)				
5	3	8	8	14	2	Fasu (FAS)			
4	4	3	4	6	0	14	Foe (FOE)		
2	2	3	5	3	0	6	3	Polopa (POL)	
4	0	0	1	0	3	1	0	2	Kibiri (KBR)

Our figures are probably low, in that MacDonald (see Chapter 3) suggests a relationship of between 8-10% (excluding Daribi which is 5%) between Kairi and the Teberan Family of languages (of which Polopa is a member). However, there is considerable culture contact between people at the southern part of the Teberan Family and Kairi speakers. For the present, we can do no more than suggest a stock level relationship between Kairi and the languages between the Turama and Kikori Rivers.

By examining only the cultural terms, the languages of the Turama-Kikori group show a marked higher relationship between other groups as follows: KRI-KWK (17%); OMT-FAS and POL (13%); OMT-FOE (10%); IKR and MNA-FAS (21%); IKR and MNA-FOE (20%); we might expect a higher skewing between KRI and POL, which goes only from 2% (Table I) to 8%. However G. MacDonald's figures, done independently of our own, bear this out and KRI had an average of only 10% relationship with twelve Teberan dialects and languages when twenty-two assumed cultural terms were computed by him. On the other hand, he found that KRI had a 23% relationship with Gibaio, a Kiwai language adjoining the Teberan group near the Era River.

Kairi shows no apparent lexical relationship with languages of the Southern Highlands, but in the following table the pronominal forms of Wiru (apparently of the West-Central Family) are given for comparison.

	Singular		Dual		Plural	
	KRI	WIR	KRI	WIR	KRI	WIR
1st	ene	no	nati	tota	name	toto
2nd	eke	ne	kati	kita	kame	kiwi
3rd	ane	one	ati	kita	ame	kini

The *-ti* form in the Kairi dual is especially similar to the dual reflexive form in Fasu (see Chapter 4). The verbs also appear to show person and number by suffixes which are in cross-reference to the free pronouns:

ene	no	<i>I am eating</i>
ege	nonoa	<i>you are eating</i>
ane	nomo	<i>he is eating</i>
name	nomo	<i>we all are eating</i>
kame	nado	<i>you all are eating</i>
ame	nemo	<i>they are eating</i>

Negatives are usually formed by vowel replacement in the verb forms:

ene	ne imo	<i>I am eating</i>	>	ene	naimo
ane	yeineimo	<i>he is crying</i>	>	ane	yeinaimo

There are apparently tenses which distinguish Past, Distant Past, Future, Present, Present Continuous, and Past Continuous.

7.3. Turama-Omatian

At least three languages are still spoken in the area between the middle Turama and Upper Omati Rivers. We refer to these as *Omati*, *Ikobi* and *Mena*. Their close lexicostatistical relationship has already been demonstrated at the beginning of this chapter.

7.31. Omati

This language, also called *Mini*, is spoken along the Omati river at Gihiteri, Iba, Gibida, Kiben, and Kamairo by just over 800 people

registered in the Ikobi Kairi Census Division.

7.32. Ikobi

Speakers of this language, also known as Ikobi Kairi or Kasere, claim that the language is mutually intelligible with Mena, to the extreme north and bordering the Namumi (related to Fasu, see Chapter 4). It is not possible to give separate population figures for the two languages - which according to our data have around a 64% vocabulary relationship in the data tested. There are, however, the following villages which have Ikobi/Mena speakers: Bainu, Barawiti, Hivuku, Iharu (and formerly Kaiam), Siauwiti, Sogwai, Sumai, Susumoro, and Ufeho of the Ikobi Kairi Census Division. Other villages which are in the Upper Turama Census Division are Fai'a, Komaio, Sibaure, Sorobo and Suniri. The village of Sumakarimu reportedly has speakers of both Mena and Namumi. The total of Ikobi/Mena speakers is around 650.

7.33. Other Area Names

There have been several language/dialect names in early literature which relate to the general Trans Turama-Omati areas. Those which have had supporting word lists published in early Annual Reports are as follows:

(1) Barika, recorded at a village called Asanu which was then located sixteen miles north north-west from Iesso and eight miles northeast by east from the headwaters of the Omati River (AR 1921-22).

(2) Dugeme, recorded at Soroba, fifteen miles northwest to "Gibeni" at the headwaters of the Paibuna River (AR 1923-24).

(3) Karima, a tribe which was located at "Kibene" village at the headwaters of the Paibuna River (AR 1920-21).

The items of the above three languages which were common with the items of the Swadesh list for Omati, Ikobi, and Mena were compared. This results in a fairly high degree of interrelationship, as follows (with Kairi also added):

Table 2

Omati						
49	Ikobi					
48	72	Mena				
31	38	36	Barika			
43	46	54	50	Dugeme		
43	37	46	38	56	Karima	
16	16	13	17	20	15	Kairi

In that the early AR lists show a consistent low percentage reliability, Barika, Dugeme and Karima can be safely considered as dialects or closely related languages in the same general area as Ikobi, Omati and Mena. Government interpreters classify all languages in the Trans Turama-Paibuna-Upper Kikori area as one. Usually the language is called Mena or Mina. We consider all of these early AR lists as variants of present day languages of the area.

7.34. Other Observations

There are obvious but more distant relationships between the Trans Turama, Upper Paibuna languages and the languages of the Bosavi and Kutubu areas:

Table 3

	Ikobi	Mena	Omati
Kaluli	9	11	8
Some (Fasu)	8	8	6
Namumi	7	8	7
Kware (Kasua)	8	8	8
Fiwaga (Foe)	6	9	6
Beami	6	7	6

We now list some vocabulary which demonstrates some lexical similarity within the Trans Turama or Bosavi-Kutubu languages, but little between the two areas.

	IKR	MNA	OMT	KAR	KLL	FAS	FOE ¹	BEM
1. man	wane	wone	ogamin	uni	kalu	aporo	amena	tunu
2. woman	besi	bese	bes	bese	kesari	hinamo	kə	-
3. eye	si(tom)	sitɔumu	isi	isitumu	si	hi	i	si
4. ear	kupi	kovi	kovi	kuku	malo	senaki	kai	kɛ
5. breast	sɔ	šo/sɔ	žu	faka	bo	hoko	qʔq	todò
6. bone	hap	havo	havo	havo	ki	kiki	kiki	kisó/kasá
7. sun	iyos	yosə	soa	soa	of	maiya	iriabo	esó
8. moon	wasiba	wasibia	baira	baiba	ili	heke	iriabo	awbí
9. water	mɥ	mu	fae	wävo	ho:n	hɛ	ibu	hərɔ
10. stone	kam	kamə	kamu	kamo	u	eke	kane	kere/igi

¹The dialect (or closely related language) of Foe called Fiwaga, is further south and closer to the general area under consideration (see also Chapter 4).

7.4. The Inland Gulf Stock

One of the most interesting results of the Gulf survey shows conclusively that certain languages of the Papuan Gulf which are quite separate geographically are related linguistically. This suggests that an earlier more homogenous group once inhabited the coastal areas but was driven inland by groups such as the Kiwai. We have called the three known remnant groups (see Map 1 and 4) the Inland Gulf Stock. It may eventually be proved that the three languages are more closely related than what we now propose.

7.41. The Ipiko

Earlier (1968:69) we classified Ipiko as a language isolate, but noted that it showed a slight relationship with what we called Kibiri (in this chapter, Kairi). At present there are only around 200 speakers of Ipiko, all living some five miles up the Pie River from the Baimuru government station. They are located at the villages of Amepoke, Kemei (now Ipiko village), and at Pahemuba. As might be expected from observing the geographical distance between Ipiko and the other two Inland Gulf languages, Minanibai and Tao-Suamato, the latter are more closely related to each other than either is to Ipiko.

7.42. Minanibai

The Minanibai is spoken mid-way up the Paibuna River as well as (apparently) at Pai'ia'a No.2 at the mouth of the Omati River. Our list was recorded from a man from Pepeha village, suggesting that Pepeha (AR 1920) and Minanibai may be identical, even though there is only a 45% relationship in cognates between the two lists. The site where the AR list was collected was at Pepeha or Korariperamesina, located two miles southwest from Hibiri on the Paibuna River. A sketch map of the Delta Division (AR 1926) shows a "Pepeha Tribe" between the Iaam Creek [Paibuna River] and the Turama River. A village nearby is called Nabio. Further references to the Pepeha can be found in Austen (1934: 25), who said the Pepeha of the middle Paihera were the same as the Hei, living between the Bamu and Turama Rivers.

There are probably between 200-300 Minanibai speakers.

7.43. Karami

Karami was once spoken at the villages of Kikimairi and Aduahai, located on the right-hand side (in bush) of the left branch of the Turama River, and was recorded in the AR (1917-18:96) by L.A. Flint. We were unable to verify the existence of this language, but it appears to clearly belong within the Inland Gulf Group.

7.44. Tao-Suamato

This language is spoken on the upper Bamu river by perhaps several hundred people. A short list was taken from a speaker from Sipoi, located in the Upper Bamu (South Fly Open Electorate area) census Division of the Western District. Other villages in this division are: Bebesa, Diwami, Gagoro, Garu, Iowa, Kubeai, Kuria, Matakaia, Paueme and Wareho. Our informants verified that at Sipoi, Diwami, and Pariame on the middle and lower Wawoi (upper Bamu) and at the villages of Kubeai and Wareho on the Guavi River Tao-Suamato is spoken. Any villages lower than this on the Bamu River would speak Bamu-Kiwai.

An early AR (1923:24) list called Mahigi, which was collected at a village by the same name at the fork of the Bamu and Aworra Rivers shows a strong relationship with Tao-Suamato, in the words which we were able to compare. We assume that these were closely related languages, and that people from both are now living in the same general area.

7.45. Lexicostatistical Figures

We now compare the three languages and add three languages which were recorded in old AR lists (Pepeha, Mahigi and Karami). The top right-hand figures are the percentage relationships, the bottom left-hand figures are the number of words compared. The Swadesh 100 word list was used as the base.

Table 4

	PPH	KMI	MAH	IPI	MNB	TSM
Pepeha	-	19	21	16	45	24
Karami	36	-	15	6	17	11
Mahigi	42	34	-	14	26	38
Ipiko	44	36	42	-	20	14
Minanibai	44	36	42	89	-	39
Tao-Suamato	41	35	39	76	75	-

With the exception of the rather low figures between Karami and both Ipiko and Tao-Suamato, all of these languages are obviously within the same Family, or at least Stock. As can be seen from Table 5, a comparison of assumed cultural terms only does not substantially increase any of the percentages (from 12-22 cultural items were compared).

Table 5

PPH					
23	KMI				
31	17	MAH			
20	8	14	IPI		
20	23	21	14	MNB	
23	17	15	10	32	TSM

Ipiko shows a similar high percentage when cultural terms are compared with other languages with which it is obviously not closely related: Tate (an Isolate) - 20%; Porome (an Isolate) - 19%; Kiwaian languages such as Gope-Urama - up to 26%; and Toaripian languages near the Vailala River - around 13%.

Minanibai and Tao-Suamato, on the other hand, apparently have had much of their cultural influence with the Turama-Kikori and Bosavi areas to the north, as well as with Kiwaian languages to the south. Compare Table 6.

Table 6

Lang. Group:Language	Tao-Suamato	Minanibai
Kiwaian:	13-16	10-16
Turama-Kikorian:		
Omati	25	14
Ikobi-Kairi	29	25
Mena	29	38
Bosavian-Kutubuan:		
Kasua	21	13
Fasu	20	20
Foe	18	11

These figures correspond favourably with the geographical proximity of the languages and show unmistakable culture contact and influence.

7.46. Comments on Phonology and Grammar

The following phonemes are common to all three Inland Gulf languages: voiced stops b, d, g with prenasalised variants in some cases: voiceless stops or fricatives; f, t, k and h; nasals m and n; an alveolar flap which is usually r; the vowels i, u, e, o, a, and (in some cases) ɔ.

There are also regular correspondences which show sound shifts between the languages: (1) MNB initial k- is often lost in TSM or IPI: kupino *eye* vs. ufiro and uhino; kutl *belly* vs. uti for TSM and IPI. (2) prenasalised ŋg of TSM is a simple stop g or very lightly prenasalised in MNB: ŋgos *sky* vs. guwa. On the other hand this light prenasalisation may account historically for certain nasalised vowels in IPI: MNB goda *tongue* > ɔhɔ in IPI; ŋgo or ŋgo *you* (sing.) on MNB and TSM becomes nɔ or nɔ̃ in IPI; in other cases not only assumed historical prenasalisation, but also adjacent nasals accounts for IPI vowel nasalisation: TSM and MNB dāyimo *house* becomes aho in IPI. (3) intervocally MNB -k- corresponds to glottal in TSM and IPI: foko *throat* > hoʔo or ba-poʔole; (4) only IPI has an alveopalatal nasal which corresponds to an alveolar in TSM and MNB: ñəmi *sibling same sex* > name; (5) MNB s corresponds to h in TSM and IPI: desi *nose* > dehi and dahi; MNB sipio > IPI hiʔe *day*; (6) on the other hand, in some cases p and h correspond (see the word for *eye* and *throat* above).

With more data it might be possible to reconstruct the phonemes and suggest that we are dealing with the Inland Gulf Family rather than Stock. However, for the present we have divided the languages into two Families: the Upper Bamu-Paibunan, consisting of TSM, MNB, as well as Karami and Pepeha, and IPI as a Family-level Isolate.

The following table of pronouns demonstrates the closeness of the three languages. The first person dual forms in IPI is derived from the forms meaning *you and I*. The dual forms for MNB are unreliable.

Table 7

	Singular			Plural		
	MNB	TSM	IPI	MNB	TSM	IPI
1st	no	no	po	ni	ni	ni
2nd	ngo	go	nɔ	ndo	do	ʔo
3rd	eti	go	wo	eti	do	niʔi

Dual

	MNB	TSM	IPI
1st	ni (?)	kiai	vo ni no
2nd	ndo (?)	ukiai	meahi ll
3rd	eti (?)	(?)	mea hi (?) ll

7.5. Unrelated Languages

There are four widely separated languages in the Gulf District with which genetic relationships are difficult to demonstrate, either with languages in or adjacent to the Gulf. The languages are Kibiri, Pawaia, Purari, and Tate. MacDonald (in Chapter 3 of this volume) has shown that Pawaia has some features in common with languages of the Teberan Family and may be considered within the same Stock, but as a Family-level isolate (to use Wurm's classificatory term). Tate (as Brown points out in Chapter 8) has borrowed from the Eleman languages which surround it, but has no apparent genetic link with them. Brown also comments on the relationship between Purari (Namau) and the Eleman Family and gives evidence which suggests a Eleman-Purari Stock. In this section only Kibiri will be commented upon.

7.51. Kibiri

Over 1000 people in the Goaribari C/D speak Kibiri or Porome, as the dialect is called at Ero village near Aird Hills. There are over 600 people living at Ero, but the whole area is surrounded by Kerewo (Kiwaian) speakers. The remaining Kibiri villages are Bagaguina, Doibo, Palle, Tipeowa, and Wowo. However, according to the August 1970 census figures, some 45% of the total population of the Goaribari C/D were absent from the area. Of the total of 2,555 people most speak Kibiri/Porome and Kerewo.

The closeness of the Kibiri-Porome dialects can be seen by comparing the free pronoun forms:

	Singular		Dual		Plural	
	POR	KIB	POR	KIB	POR	KIB
1st	amo	amo _l	amokai	amai	amo _l	amo _l
2nd	do	do	aiakai	akai	a	a
3rd	da	da	abokai	abuakai	abo _l	abo _l

In the grammar verbal suffixes indicate a type of tense-aspect:

moida pea <i>the man goes</i>	moida koa <i>the man eats</i>
moida ope peiba <i>the man went</i> <i>yesterday</i>	moida ope koiba <i>the man eat</i> <i>yesterday</i>
moida beira pemera <i>the man will go</i> <i>tomorrow</i>	moida beira komera <i>the man will</i> <i>eat tomorrow</i>

In the above examples, moida means *man*, ope *yesterday* or *tomorrow*, beira *later*, pe- *go*, and ko- *eat*: past is expressed by the suffix -iba, future by -mera, and the continuous by -a.

The closest lexical relationship that Kibiri has is less than 5% with Purari. However, by inspecting the assumed cognates, even this relationship is tenuous:

English gloss	Kibiri	Purari
forehead	pai-kara	ikare
heart	pumi	umu
day	bari	mapani
ground	ei	kae
sand	peiri	miri
taro	meli	omera
new	mui	munu
speak	uru	kuruai

7.6. Conclusion

The Inland Gulf group of languages have split off such that one member (Ipiko) is found far to the east of the other two, northwest of the Purari delta. The Kiwai speaking people have probably been responsible for pushing this group inland, although one division of Minanibai, namely Pepeha is still located near the mouth of the Turama River.

The group is not closely related to the Turama-Kikori languages, but TSM and MNB have had considerable culture contact with them, as well as with the south Bosavi-Kutubu area.

One language, Kairi, of the middle Kikori River is related to languages at the headwaters of the Paibuna River. These languages

(or in some cases, dialects) are closely related to each other and at present we postulate that there are at least three separate languages in the area: Ikobi, Mena, and Omati. They may all be mutually intelligible, in that a similar single language name (Mena/Mina/Mini) is used by interpreters to refer to the entire area. Although the Bosavian languages show some relationship to the Trans Turama ones, at present the relationship must be regarded as remote. It may represent culture contact between the two areas rather than a genetic relationship.

APPENDIX

LEGEND

The main languages referred to are listed alphabetically here. The family of the language follows its name and is in parenthesis. Alternate names and sources are then given.

IKOBI (Turama-Omatian) Kasere (Capell 1962, Brown).

IPIKO (Inland Gulf) Higa (J. Cribb); Epai and Ipikoi (Ray 1907).

KAIRI (East Kikorian) Kai-iri or Kibiri (AR 1917-18); Kibiri (Klieneberger 1957); Dumu (Capell 1962, Voegelin and Voegelin 1965); Tumu (Bevan 1890, Ray 1895); Rumuwa (Austen 1934).
Dialect of Iehi Creek is called Kse.

KARAMI (Inland Gulf) (AR 1917-18).

KIBIRI (Isolate) Porome.

MENA (Turama-Omatian) Kibene (Capell 1962); Dugeme (AR 1923-24).
Probably also Dugeme (AR 1923-24) Karima (1920-21) and Barika (1921-22).

MINANIBAI (Inland Gulf); Pepeha or Eme-eme (AR 1919-20); Hei (Austen 1934); Probably Dibiasu (AR 1924-25).

OMATI (Turama-Omatian) Mini.

TAO-SUAME (Inland Gulf) Mahigi (1923-24).

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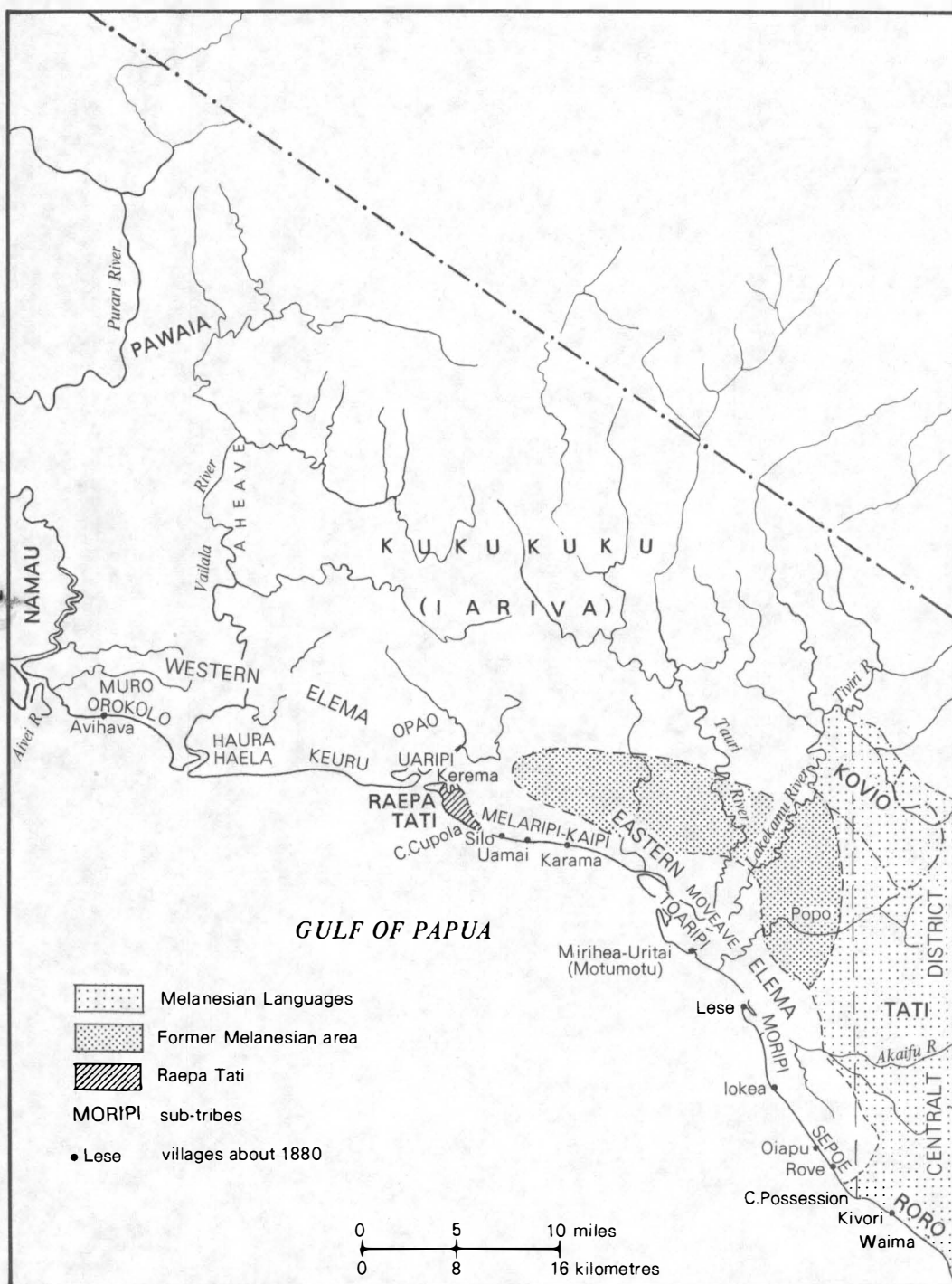
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CHAPTER 8



MAP 6: THE ELEMA AND NEIGHBOURING TRIBES

THE ELEMEN LANGUAGE FAMILY

H.A. Brown

8.1. The Elema People

In this chapter we are concerned with the languages spoken from the Aivei, one of the mouths of the Purari River, to Cape Possession, a coast some 120 miles in length. Coastwise the one language that lies out of the immediate scope of our study here is that spoken by a very small tribe living in the vicinity of Kerema - the Raepa-Tati people. (See Map 6).

The people whose languages and dialects concern us here number in all about 37,000. They may be regarded as a single ethnic group in that they shared a common traditional culture. The general characteristics of this traditional culture may be summed up as follows: a dispersed, exogamous clan system, patrilineal in descent, having associated linked totems, an extensive mythology, with art forms derived from the mythology. Men's houses (elavo) of uniform pattern were found throughout the area. Their traditional social organisation included age sets and age grades. There was a bull-roarer cult which was associated with the pukari, the headman responsible for the maintenance of law and order within the elavo community. The traditional culture had as its most outstanding feature elaborate ceremonies in which appeared masks of remarkable design. Culture change stemming from missionary, government and commercial activities, has resulted in the disappearance of the traditional religion and culture. The languages and dialects continue, however, and their close relationships justify us continuing to regard the Elema as one people.

8.2. The Name 'Elema'

Although they lacked a common name for themselves the name Elema was given to them by the Motu of the Central District, with whom they had trading relationships through the hiri. In the urban centres of present-day Papua New Guinea, where so many of them have migrated in recent years, they are commonly known as 'Keremas' from the name of the government centre in the eastern Gulf of Papua. The term 'Gulf' native was also used, but neither term has precise reference in that the Elema are by no means the only tribal group administered from Kerema. In anthropological circles the name Elema has been in vogue since the time of Seligmann (1910). F.E. Williams wrote much about the people and used the name Elema when referring to the people generally (1940:23ff). Maher (1961) is the only anthropologist to differ. He uses 'Ipi' tribes, an impossible term coined by Holmes (1924).

Although it was the Motu who began the use of the name Elema as a general term, it is actually of Toaripi origin. To the Toaripi the people living around Kerema Bay were known as the Heleva, the groups further west from Keuru to Orokolo being called Lavau. Thus the dual name Hereva-Lavau denoted to the Toaripi the Western Elema. As used by the Motu 'Elema' has a wider reference in that it included also the Eastern Elema. In its use here the name has this wider reference. To the Western Elema the name Lavau means the people of the eastern Purari Delta, i.e. the Namau.

8.3. Elema Origins

At the time of the first European contacts the Elema were well-established as a coastal or riverine people. Two of the sub-tribes, the Toaripi and the Moripi, had moreover adopted from the Motu the hiri trading voyages, and their sea-going canoes (vavaea) used to sail annually to the Central District from the Eastern Gulf. The Elema were not, however, a maritime people in origin. The traditions of origin of the various sub-tribes point vaguely to the mountains towards the north-west, possibly the Albert Mountains, or even some more remote region. The Elema groups that migrated coastwards were doubtless quite small in number, for the very rugged country over which they would have travelled would not have favoured mass migration. Moreover the initial encounter with the diseases endemic to lower altitudes, such as scrub typhus, tropical ulcers, yaws, hookworm and above all malaria, must have

decimated the newcomers, until they finally crossed the swamps and found themselves on the relatively healthy coastal strip. Only by being reinforced by successive bands of migrants could their numbers have been maintained in those early years. In such a mode of settlement we see an explanation for linguistic phenomena that otherwise are inexplicable, such as the resemblances between Sepoe at the extreme east of the Elema coast and Orokolo at the extreme west, and the sporadic occurrence of words akin to Namau (see below). The broad linguistic division between eastern and western Eleman would seem also to have had its origins in the manner in which the coast was settled. (See below).

At first, as the sites of earlier villages demonstrate, the settlements were a little inland. Later, as a result it would seem of encouragement by the Motu who came along on trading voyages, the villages came to be built right on the sea coast. Men took to wearing the bark cloth perineal band, the *sii* (Motu: *sihi*) and relegated to uninitiated boys the pubic tassel, reminiscent of the Anga (Kukukuku) sporran (see Chapter 2). Men began, also after Motu fashion, to cultivate mops of hair, leaving the boys to continue with older fashion of shaven heads with two tufts of hair, the *aitekori* and the *avora tui* (cf. Motu: *hui*, Toaripi: *tui hair of head*). Here again we are reminded of the Anga who have a similar hair style, but with one tuft instead of two, the purpose of which is to serve as an anchor for the barkcloth cape they wear.

8.4. Neighbours: the Roro

Towards the east the coastal neighbours of the Elema are the Roro, who speak a Melanesian language. The eastern Eleman show no influence of Roro on their vocabulary. In neither Sepoe nor the Toaripi of Iokea are there any words shared with Roro except Toaripi and Sepoe: *kaisi*, Roro: *aisi*, the salt-water crayfish. It was the Elema who influenced the Roro, rather than the other way round. In traditional times the nearer Roro villages, such as Kivorì and Waima, adopted from the Elema such features as men's houses, seclusion, the bull-roarer and masked ceremonies, which features were lacking in Roro villages distantly situated, such as Hisiu. The terminology associated with such features shows marked Elema influence.

Early anthropological and linguistic studies of Papua (Haddon 1894:27; Seligmann 1910:1) separated the peoples of the Territory into two main groups, the Papuans and the Papuo-Melanesians, the division having as its basis 'racial', linguistic and cultural criteria. In such a

division Cape Possession was a notable landmark, for it was regarded as a boundary between the Roro, the last of the Papuo-Melanesians, and the Elema, the first of the Papuans as one enters the Gulf of Papua. However, closer investigation has failed to substantiate this early division. Culturally, as I have already mentioned, such a boundary cannot be maintained. Neither is such a division acceptable to physical anthropologists (cf. Montagu 1947:18). Linguistically the division remains valid, but the boundary must be considerably redrawn. On the coast the division is actually a little to the west of Cape Possession, for Meauri, a Roro hamlet, is situated on the Gulf side of the cape. Inland there is a wide area where the people speak languages akin to Mekeo, and are thus 'Melanesian' in affinity.

8.5. Neighbours: the Tati and Kovio

The Tati live in villages up and about the Akaifu River. The name used here is the one by which they are known to the Elema. 'Bush Mekeo' used to be the name in Government quarters, but this was considered derogatory, and was altered to 'West Mekeo'. This new name led to confusion because a division of the Mekeo proper was already known as 'West Mekeo'; so the current official name is 'North Mekeo'. Here we use the Elema name.

Akin to them, and living in the upper Lakekamu area around the Kurai Hills, are the Kovio. Again this name is to be distinguished from an identical name used by Seligmann (1910:31-2) for people now known as 'Kunimaipa'. The Kovio number only about 150 in all, and live in two small villages, Urulao on the upper Lakekamu, and Okavae at the junction of the Oreba-Kunimaipa rivers. There are some dialectical differences between Tati and Kovio, but not such as to make communication difficult. There has been some intermarriage between them. I have reduced Kovio language to writing, compiled a dictionary, and translated Mark's Gospel into it. Kovio shows no indication of having been influenced by Toaripi. I know of only one word that suggests an affinity, i.e. Kovio: *kanima*, Toaripi: *sariva journey*. In their communication with each other the Elema and Kovio usually employ Hiri Motu.

Local traditions indicate that these Tati or Kovio speakers were formerly spread over a much wider area. What is now Popo appears to have been one of their settlements when Chalmers first visited the Gulf. Being few in number they allied themselves with the Toaripi and became merged with them. Tapala was also originally a Tati village, but it is

now grouped with Heatoare (Moveave). Even further to the west, in the area inland from Kaipí, there were once Tati settlements. Attacks by the Anga (Kukukuku) caused these Tati people to flee to the Kaipí or to Moveave for protection. Some people claim to be of Tati descent, but apart from this they are fully integrated with the Elema, and they retain no memory of the language of their ancestors. Diligent enquiries that I made some thirty years ago failed to recover a single word of it. Map 6 (p. 280) gives the former and present 'Papuan' and 'Melanesian' linguistic boundaries.

8.6. Neighbours: the Raepa Tati

As stated earlier, there are three villages near Kerema, about Cape Cupola in the middle of the Elema coast, where the people speak a language that differs from their Elema neighbours. These people are the Raepa Tati ('Hill Tati'), to use the Eastern Elema name for them. In former times they lived in a string of hamlets along the ridge above the cape. Heaps of shell may be seen at the former sites, the names of which are still remembered by the people. Anga raiding at the turn of the century compelled them to flee down to the water's edge, where their villages are now located. Two, Lovera (29) and Lou (82), are right on the sea coast; the third, Uriri (155), is off Kerema Bay. The numbers given in brackets are the 1970 population figures.

The name Tati suggests a 'Melanesian' origin, and the people do, in fact, have a tradition that they came originally from Nara, inland from Cape Suckling, eastwards from Yule Island. Enquiries I made some years ago amongst the Nara people confirmed this tradition, suggesting that as a result of a quarrel their ancestors divided, and one group migrated westwards by canoe. The Nara and Raepa Tati languages, however, show no structural resemblance. There are words of 'Melanesian' derivation in the Raepa Tati vocabulary, but the same can also be said of all the forms of speech of their Elema neighbours. The origin of such words is to be traced to Motu influence stemming from the Hiri trading voyages; e.g. Raepa Tati: *nau axe*, (see below 8.9). There are some Raepa Tati words that cannot, however, be accounted for in that way, e.g. Raepa Tati: *aiparo* is practically identical with the Roro: *aiporo pig*. A few other such odd resemblances of vocabulary, (such as Raepa Tati: *ea*, Mekeo: *ea house*; Raepa Tati: *upa rain*, Motu: *guba storm*; Raepa Tati: *haua*, Roro, Gabadi *haua rat*) suggest that the tradition of origin had a factual basis, but that the migrants were too few to survive alone, and so they linked

themselves with some Elema group whose language largely prevailed in the speech of their descendants. My investigations suggest that Raepa Tati has its nearest affinity with the Eleman language family.

8.7. Neighbours: the Namau (Koriki)

Unlike any of the peoples and languages mentioned hitherto, the Namau had a considerable and widespread influence on the Elema. We see this influence in the men's houses (*elavo*), the centres for the ceremonies associated with the former religion. These had names derived from the Namau name for the same type of structure, the *lavi*, such as *Kaurilavi*, *Sky-lavi*, and *Morōvelavi*, *Rattan-cane-lavi*. It is of interest to note in this connection that the same kind of borrowing took place amongst the Western Roro. Their name for *elavo* or *lavi* was *marea* (cf. Namau: *marea dwelling house*), but the names for the *marea* were derived from Toaripi (Seligmann 1910:24-6). Other features of the traditional culture common to both Namau and Elema include masked ceremonies, the bull-roarer cult and art form. A notable character in Elema mythology, Iko or Tito, is known throughout the Papuan Gulf as far west as the Kiwai, who call him Sido (Williams 1940:118-19). To the Kerewa he is Hido. Other traditional features show, however, a marked distinction; e.g. the Namau were cannibals, which the Elema never were.

All the various forms of Elema speech reveal some trace of a Namau connection. Of over a thousand Namau words (Holmes 1902) examined there are about forty that show unmistakable affinity. These words may be grouped as follows:

- (1) Words that appear unchanged, or nearly so, from the Purari

Table 1

English	Namau	Orokolo	Belepa	Kaip	Toaripi	Sepoe
<i>butterfly</i>	pipi	pipi	pipi	fifi	pipi	pipi
<i>beach</i>	miri	miri	miri	miri	miri	miri
<i>dark</i>	mur	mur	mur	mur*	mur*	mur*
<i>rain</i>	lai	lai	lahi	lai	lai	lai
<i>sun</i>	lare	hare	hovare	sare	sare	sare
<i>wing</i>	maho	maho	moko	maho	avako	maho
* as noun: murumuru						

Namau - Elema Cognates

eastwards to Cape Possession (Table 1). The nature of these words and their widespread occurrence precludes their being regarded as loanwords.

The word for *shame* in Namau appears unchanged in Orokololo: *makiri*. By a reversal of the *k* and *r*, and a change of the former to *t*, the form is *mariti* in Toaripi. In both Toaripi and Orokololo: *maea body*, a word used with a wide range of terms denoting mental states, is usually prefixed, i.e. Toaripi: *maeamariti*, Orokololo: *maeamakiri*. By reversing the vowels, Namau: *vaki man* becomes *vika*, an old Eastern Elema word for *man*. This in Toaripi is *vita*, Orokololo: *vila*, and means *husband* or *man*, although in the latter sense the lengthened Toaripi: *heavita*, Orokololo: *hilavila* is more usual.

(2) A limited vocabulary having association with the traditional religion. Mention has already been made of the *elavo* (*men's house*) names, formed from the Namau: *ravi men's house*. To the two examples already given may be added *Holalavi*, *Hola-reed-lavi*, *Orilavi*, *Bird-lavi*, and *Orolavi*, *Hibiscus-tree-lavi*. These names embody the names of the former totems of the sub-clans. Another Namau word *lalava*, which there denoted a division of the *ravi*, had the same meaning in the Elema languages and dialects. Nowadays the word is used in both Toaripi and Orokololo with the meaning *room* or *cabin (of ship)*. Other words associated with the traditional religion and which show Namau affinity are: Namau: *kanipu* and *aiai*, which in Kaipi and Toaripi are *harisu* and *oioi* respectively. These are names for the masks known in Orokololo as *kovave*. The votive plaques known in Namau as *kwoi*, were called *hohao* in Orokololo. In Toaripi they had two names, *hoao* and *koae*, one cognate with the Orokololo term, the other with Namau. The word for *taboo* also reveals an affinity; Namau: *mupu* and Orokololo: *pupu*. Toaripi has *safu* for *taboo*, but there is also *pupu*, meaning a taboo sign.

(3) A few words found in Orokololo and associated dialects, but not elsewhere. Such words are: *amua headman, owner*, for which the Toaripi equivalent is *papuvita*. In Namau: *amua* has the meaning of *gift*; hence *amua vaki (gift-man) headman*, because in the traditional society a headman's influence was in proportion to his generosity. This word became *amua haela* in Orokololo, or simply *amua*. The word for *hunt*, Namau: *lakea*, appears in Orokololo as *nakea*; for this Toaripi has *tapora*. A third Namau word *maia sick, ill*, appears in Orokololo as *maea*, and had the auxiliary with it *maea lai be ill*. The equivalent here in Toaripi is *eka* (Kaipi: *ekaho*, Sepoe: *eka*), which also uses the auxiliary *loi*, *eka loi be ill*. Amongst the Eastern Elema there is one term that covers the

two meanings of *breast* and *scrotum*, e.g. Toaripi: kō. The Western Elema agree with Namau: ame *breast* in the form of amae for *breast*, but have kou for the other of the two meanings.

(4) A few words of discontinuous occurrence. These have closely related forms in both Namau and Toaripi or some other form of Elema speech, but differ in Orokolo. Such words are: Namau: iara, Toaripi: ivara, Orokolo: aeha, *courage, daring*, also *fierce, savage*; Namau: kore, Toaripi: tore, Orokolo: oaoka, *fear*; Namau: nava, Uaripi: tava, Orokolo and Toaripi: ekaka, *fish*. In Toaripi: tava is an associate name for *fish*, sometimes encountered in poetry. There is also Namau: naka, Toaripi: lakai, Orokolo: maeako, *branch*, but Orokolo has laka meaning a *large branch, bough*, so maybe this word should be included under (1). The word for *peace* belongs here perhaps; Namau: airu, Toaripi: tairu, Orokolo: havila.

(5) Common introductions from Motu, the result of contacts through the Hiri trading voyages. This subject will be mentioned in the next section. Here we briefly note: Namau: kavakava, Orokolo: kavale, Toaripi: tava, Motu: dava-na, *price*. Namau already had a word for *barter, exchange*, inaea, which appears in Orokolo as ilaea, Toaripi: itaea and Raepa Tati: inaia with the same meaning. Like Namau this is used with the auxiliary to make it a verb; i.e. Namau: inaea liai, Orokolo: ilaea lai, Toaripi: itaea loi. Another word of Motu origin is kimai *fish-hook*, which appears in Namau and Orokolo, but not in Toaripi, which has forōva eite. Motu would also seem to be the origin for Namau: rui, said by Holmes to mean *whale*, but which in Orokolo and Toaripi means *dugong*, as it does in Motu. Namau and Orokolo share kile for *mat*, for which the Toaripi is kite, the Motu being geda. It may well be that the word is of Toaripi origin, for kite is the Toaripi name for the rush (*Papyrus* sp.) from which the finest mats are made.

Structurally the Namau language shows a number of points of resemblance with the various forms of Elema speech (cf. Ray 1907:325-32):

(1) The genitive marker na corresponds to the Elema: ve; e.g. Namau: mere na noi, Toaripi: atute va rare, *son's name*; Namau: oroko ovara na pei, Orokolo: ave eapapo ve eapai, *big dog's food*.

(2) the Namau postposition ai corresponds to the Orokolo: kai and Toaripi: tai, in respect of persons; e.g. Namau: mekai ai, Orokolo: oa kai, Toaripi: oa tai *to, towards father*. For places, where the meaning may be also *at* or *on*, Namau continues using ai. Toaripi, however, uses voa; the Orokolo is ve, which is identical in form with the genitive

marker, but should not be confused with it. Thus Namau: *rore ai*, Toaripi: *fave voa*, Orokolo: *have ve, on or to a stone*; Namau: *marea ai*, Toaripi: *uvi voa*, Orokolo: *uvi ve, in or to the house*.

The many postpositional compounds and phrases present in the Elema languages have parallels in Namau, e.g. Namau: *arau ai*, Toaripi: *ora voa*, Orokolo: *ihau ve, beneath, under*; Namau: *arekamu ai*, Toaripi: *haekao voa*, Orokolo: *maeamaea ve, near*; Namau: *niki ai*, Toaripi: *pisiri voa*, Orokolo: *hihi ve, outside, in the open*. In both Namau and Elema: *arau, ora, ihau, arekamu, haekao*, etc. are nouns *under-place, proximity*.

(3) Pronouns. Although a comparison of Namau and the Elema languages fails to reveal any near identity of form, there are some parallels in the morphology of the pronouns.

In Namau the dual forms result from compounding the plural forms with *-re* or *-rere*, found also in the numeral two *mo-ere*. In Toaripi the dual forms are similarly compounded with *-auka*, seen also in the numeral two *oraka*, an older form of which was *rauka*. In Orokolo the dual forms stem from *-ari*, used like *auka* in Toaripi as a simple form for the second and third person dual pronouns. The following table sets out these dual pronouns which in Orokolo are complicated by the presence or absence of the *va* subject marker, and *-ila* the number indicator, thus resulting in no less than five variant forms in the second and third person. Note Table 2.

Table 2

	Namau	Toaripi	Orokolo
1st. <i>we two</i>	<i>enere</i>	<i>elaka</i>	<i>elalila, elavaiila</i>
2nd. <i>you two</i>	<i>norere</i>	<i>euka, auka</i>	<i>earila, eari, ari, evarila, evari</i>
3rd. <i>they two</i>	<i>orere</i>	<i>ereuka, auka</i>	<i>erearila, ereari, ari, erevarila, erevari</i>

Namau - Eleman Pronouns

Namau lacks the variation in the first person plural used to indicate the inclusion or exclusion of the person addressed. Although this is present in all forms of Elema speech, the variation for the inclusion is not a primary form but one derived from the exclusive by adding Toaripi: *ita*, Orokolo: *ila with*; i.e. Toaripi: *ereita* = *ela + ita we with*; Orokolo: *elaviila* = *ela + vi + ila we + vi + with*. The Orokolo: *-vi-* is

not the subject marker; its function is to prevent elision between *ela* and *ila*.

(4) Verb. The Toaripi plain form, used as the lexeme, has an ending identical with Namau; e.g. Namau: *ruai*, Toaripi: *sukai*, *stab*; Namau: *peaviai*, Toaripi: *fururukeai*, *spread out* (as a mat). The Orokolo equivalent form ends in *-a*, and for the examples given has *huka* and *hururuka*.

The important auxiliary verb found in Toaripi and Orokolo (Toaripi: *loi*, Orokolo: *lai*), and other forms of Elema speech (e.g. Opao: *lei*, Keuru: *loi'e*), has an equivalent in Namau in *liai*. Many examples can be given: Namau: *ima liai*, Toaripi: *lareva loi*, Orokolo: *veveke lai*, *be good, be well*, from *ima*, *lareva*, *veveke*, *good*; Namau: *ipa liai*, Toaripi: *ore loi*, Orokolo: *ore lai*, or *ore ara*, *know*, from *ipa*, *ore*, *knowledge*.

The Namau past tense is formed by suffixing *-nave* or *-inave*; with this compare Toaripi: *-ōpe*, Orokolo: *-ape*, remote past.

The Namau infinitive is shown by the suffix *-na*. This is identical in form with the genitive marker. The Orokolo infinitive *-ve* shows a similar identity of form; the Toaripi has a lengthened vowel *vei*, in the place of *ve*. Thus: Namau: *nai enavai ere uruna*, Toaripi: *ara koti ma hivai vei*, Orokolo: *ara eke ma hihukave*, *I come to draw water*.

These lexical and structural correspondencies lead one to the conclusion that Namau and the Elema languages stem from a common source. In the remote past the Purari people, like the Elema, moved coastwards from the interior. It would seem that the Purari were the first comers. Then followed the Elema, the first groups of which as they neared the coast absorbed some remnants of the Namau still living a little inland, thus giving rise to the differences of language which now exist between the Eastern and Western Eleman.

8.8. Motu Contacts and Hiri Motu

What is now the Central District of Papua suffers from prolonged dry spells during the S.E. monsoon season. To overcome the resulting food shortage, the Motu were accustomed to make annual trading voyages to the eastern Gulf of Papua to exchange their pots, shell ornaments and stone axe or adze blades for sago and other Gulf products. Two of the Elema sub-tribes, the Toaripi and the Moripi, themselves adopted the practice of making such trading voyages. The Motu timed their Hiri, as such trading voyages were called, to begin at the end of the S.E. monsoon (September-October) so that they could return with the N.W. wind that

prevails towards the end of the year. The Toaripi and Moripi, for their part, would leave towards the end of the N.W. season, i.e. March, and would return the following month at the commencement of the S.E. monsoon.

Elsewhere in the Gulf the stimulus or the enterprise needed for such dangerous and difficult voyages was lacking. The people were content to welcome the Motu voyagers in their home villages. It was not until long after the Administration had been established that other Elema sub-tribes began making trading voyages.

The linguistic effects of these contacts is our concern here. Motu is quite distinct from any form of Elema speech. The medium of communication between the Motu and the Elema was a pidginised form of Motu, called by the Motu people Nao Gado 'Foreign Speech'. During the 1890's this form of Motu became the lingua franca of the police force, and thus acquired the name 'Police Motu'. Under this name its use spread to most parts of Papua. More recently the name 'Hiri Motu' has come into vogue.

According to the Motu it was Edai Siabo of Boera village, the legendary founder of the Hiri trading voyages, who initiated the use of Hiri Motu. The linguistic evidence points rather to it having been a Toaripi invention. In fact Hiri Motu may be described briefly as a form of speech that utilises a simple Motu vocabulary with a structure that grammatically and syntactically resembles Toaripi.

The following summarises the salient points of resemblance between Toaripi and Hiri Motu, and in these points Hiri Motu also differs from proper Motu.

(1) Use of personal pronouns instead of pronominal particles and suffixes. Thus: Hiri Motu: boroma lau itaia; Toaripi: ara ita ofae eavai; Motu: boroma na itaia, *I see the pig*.

(2) Negative of verb: Hiri Motu: lasi = Toaripi: kao; e.g. Hiri Motu: ia mai lasi; Toaripi: are koti kao; Motu: asiema, *he's not come*.

(3) Tenses of verb:

(a) future Hiri Motu: dohore = Toaripi: aite; e.g. Hiri Motu: dohore lau lao; Toaripi: ara aite terai roi (the roi is sometimes omitted, and we get ara aite terai); Motu: do bainala, *I shall go later*.

(b) present Hiri Motu: harihari or hari = Toaripi: faitora; e.g. Hiri Motu: unai manu hari lau itaia; Toaripi: ara faitora lea ori la eavai; Motu: una manu hari na itaiamu, *I now see that bird*.

(c) continuous: Hiri Motu: noho = Toaripi: pea; e.g. Hiri Motu: emu hereva lau kamonai noho; Toaripi: ara ave laua la mapaipea; Motu: emu hereva na kamonaianu, *I'm listening to your talk*.

(d) completed action: Hiri Motu: vadaeni = Toaripi: roroka; e.g. Hiri Motu: gaukara idia karaia vadaeni; Toaripi: ere tivi lei roroka; Motu: gaukara vada e karaia, *they have done the work*.

(4) Use of vadaeni as a conjunction in the same way as Toaripi: soka. The Motu meaning of vadaeni is *enough, that'll do*. In Toaripi: soka has this meaning, but it is also used in narrative discourse to introduce a fresh episode. Hiri Motu: vadaeni has also this use, which is lacking in Motu.

8.9. Motu Loanwords

Contacts through the Hiri resulted not only in the formation of Hiri Motu, but in the adoption also of a limited but suggestive range of Motu words by the Elema languages and dialects, modified to fit the local phonemic pattern. For example, Motu: sihi, *perineal band*, a mode of attire taken over from the Motu, became in Toaripi: sii, and in Orokolo: hii. One of the trade items, the conus shell armlets (Motu: toea) became soea in Toaripi and huaea in Orokolo. Another trade item, water pot (Motu: hodu), acquired the name of posu in Toaripi, and hohu in Orokolo. The form Orokolo: laho *foreign*, was taken by Toaripi from Motu unchanged as nao. On being taken into Toaripi and Orokolo: pepe retained its original form in both languages. This was formerly a decoration on the lakatoi canoe, but nowadays it has taken on the meaning of *flag*.

Suitable stone for use as tools is lacking along the Gulf coast. Stone axe or adze blades were thus amongst the Hiri trade items. Prior to Motu contacts stone tools must have been known throughout the Elema sub-tribes. These would have been obtained from inland where suitable stone is not lacking. However, they began acquiring their stone tools from their Motu trading partners, and with the tools the name also. Motu: ira became ita in Toaripi and ila in Orokolo. In Toaripi there is another and apparently older word for stone axe, kei. The Sepoe, who did not participate in the Hiri trade for they lacked reserves of sago retained their word oakei for this tool. When steel axes appeared the name ila continued unchanged in Orokolo, but in Toaripi it was thought necessary to add nao *foreign* to distinguish the new tool from the old. The name for steel axe in Toaripi and also in Sepoe became naoita. The word for knife underwent a similar process. Bamboo slivers known as Toaripi: soi, Orokolo: hoi were used as knives in former times. On acquiring steel knives the word soi/hoi was transferred to the new tool

Toaripi added *nao*, hence *naosoi*, but in Orokolo the name is simply *hoi*.

Because of their own involvement in the Hiri, the Toaripi adopted from Motu some words that found no place in Orokolo. One such word is *siahu*, and its presence in Toaripi demonstrates that ideas were exchanged as well as pots and sago. In Toaripi with *a* or *sare*, *fire* or *sun* in apposition, *siahu* has the same meaning as in Motu, i.e. *heat*. There is, however, a Toaripi word for *heat*, namely *hehea*, found also in other forms of Elema speech, e.g. Orokolo: *ahēa*. Thus Toaripi: *sare ve hehea* becomes Orokolo: *hare ve ahēa*, *heat of the sun*. There is a further meaning attached to Orokolo: *ahēa*, i.e. *power*, the power that makes for efficiency in sorcery and magic. For this meaning Toaripi employs *siahu*, the word taken over from Motu, the older term *hehea* being usually employed when *heat* is meant. Nowadays, when sorcery and magic are out of fashion, *siahu* generally has the meaning of *authority, power*, e.g. *gavana ve siahu* *government authority*. For this meaning Orokolo continues to employ *ahēa*.

Yet another Motu word found in Toaripi but not in Orokolo is *lohio*, usually with *karu* *person, man* in apposition, *lohio karu* *headman*. In Motu it is *lohia headman*, often with *-bada big* added. Although *lohio karu* has a firm place in Toaripi, the word *papuvita* a native term has more general use, particularly when the sense of ownership is being implied. Thus one can speak of the *papuvita* (but not the *lohio karu*) of a house, a garden, or a canoe. The Orokolo equivalent for *papuvita* is *amua*, often with *haela* *person, man* in apposition. As has already been stated, Orokolo took *amua* from Namau. There is, however, in Orokolo a native term for *headman*, *haelapo*, formed from *haela* and the suffix *-apo big or great*. It is curious that the native Toaripi term *papuvita* has its Orokolo equivalent in the imported word *amua*, while the native term in Orokolo: *haelapo*, is better matched by the imported term *lohio* in Toaripi.

I conclude this cursory survey of Motu influence by mention of one introduction into Orokolo. Amongst the Eastern Elema the number four is formed by a reduplicated form of the word for *two*; e.g. Toaripi, Sepoe: *orakarake*, Kaipi: *oralerale*, (cf. Raepa Tati: *u'ungka-u'ungka*). Orokolo and other Western Elema forms of speech have *hari-ila*. This would seem to be from the Motu: *hani four*, joined to *-ila* the number marker. Such a borrowing foreshadowed the present situation when English numbers have practically supplanted the native numbers in all forms of Elema speech.

I might also add that Dr P. Chatterton, who has written on Hiri Motu (1971) has read this section and is in full agreement with it.

8.10. Elema Local Groupings

The Elema are divided into a number of local groups which may be called sub-tribes. Williams (1940:26) calls such groups 'tribes' and speaks collectively of the Elema as a 'people'. These are distinguished by locality, by variations in the traditional culture pattern, by diverse legends of origin, by differing versions of the clan mythology and variations in the terms for the sub-clans and the totems, and by the various dialects or languages. There are also slight physical differences to be seen between some of these sub-tribes. As a result of the discarding of so much of the traditional way of life, some former points of difference are no longer to be discerned, but the languages and dialects persist, and these with the differing localities some small variations in material culture, and in some cases physical differences, still distinguish the sub-tribes.

In addition to these sub-tribal groupings, a much broader two-fold division can also be made. This is an eastern and western grouping, with the township of Kerema as the point of separation. This division lacks a traditional basis and is a natural outcome of the coastal area being too extended for easy supervision by government or mission. Hence in connection with local government there are two centres, one to the east at Malalaua, and the other at Ihu, to the west of Kerema. Similarly the village co-operative societies are linked into two Associations, the Toaripi to the east of the township, the other being the Ihu Association.

Before the end of the last century the London Missionary Society had made a division of the Elema coast into two mission districts, named as was the mission custom after the names of the head stations, i.e. Moru eastward from Cape Cupola (Kerema had not then been founded) and Orocolo or Auma to the west. For the first four decades Toaripi was used throughout as the medium for literacy and for Scripture translation. Later Orocolo came to be used amongst the Western Eleman, and the New Testament and Genesis has now been published in that language.

Although this east-west division has no traditional basis, there are grounds for a similar linguistic division, but the boundary would need to be set a little further to the west so as to include the Uaripi amongst the Eastern group. The dialects associated with Orocolo - Muru, Aheave, Belepa, Keuru and Opao - all show a close affinity with it, much more so than the affinity between the forms of speech that make up the Eastern group. All the Western Eleman forms of speech are characterised by the absence of the phonemes /f/ and /s/, which are present elsewhere. There

are, however, regular sound changes between east and west, and words which in Eastern Eleman feature these phonemes initially will be found to have /h/ in Orokolo and associated dialects.

The following in Table 3 indicates the sub-tribes, their languages or dialects, and the linguistically based east-west division. The township of Kerema, which has a population of 1,552 including about 100 Europeans, is mainly Elema. There is no need to allocate these town dwellers to their local groups because their names would have been recorded also in their home villages; the village census sheets include absentees.

Table 3

Sub-Tribe	Dialect or Language	Population
Eastern Eleman Linguistic Group		
Sepoe	Sepoe (Ray's 'Lepu')	1,077
Moripi-Iokea	Toaripi	5,343
Moveave-Toaripi		9,018
Melaripi-Kaip	Kaip (Ray's Milareipi)	4,689
Uaripi	Uaripi	<u>2,470</u>
		<u>22,597</u>
Western Eleman Linguistic Group		
Opao	Opao	1,116
Hae Haela	Keuru (Belepa)	1,219
Haura Haela		2,609
Aheave Haela	Aheave	695
Muro	Orokolo	944
Orokolo		<u>6,395</u>
		<u>12,978</u>

Eleman Groups and Population

Some explanation is perhaps needed with regard to the use of hyphenated names. The Moripi-Iokea have traditions that point to a common origin for the sub-tribes. Iokea is said to have been an offshoot from Moripi, a name that is used locally for the people of the Lese villages. Similarly with the Moveave-Toaripi, the parent community is traditionally regarded as being Moveave. While the differences of speech between Moveave and the Toaripi are readily apparent to anyone

familiar with the language, these differences are not such as to justify setting them up as different dialects. The dialect ought also to have the hyphenated name; however, the name 'Toaripi' is well established, so I have let it stand. Yet I must point out that no Moveave person would agree that he spoke 'Toaripi', anymore than an English person would accept that his mode of speech was 'American'. It may also be said in justification of these hyphenated names, that they are after the style of the dual names encountered in the clan myths.

In three of the Western Eleman names - the Hae Haela, the Haura Haela and the Aheave Haela - the word *haela people* occurs. This *haela* is cognate with Toaripi: *heaea* which appears in the names of some of the dispersed clans, e.g. Sove Heaea. Since these three names embody the word *people*, they are hardly suitable to use in that form as the names of dialects, so other names had to be found. The Hae Haela are also known as 'Keuru', the name used by Ray (1907), and also Williams (1940), who has Haura Haela and Aheave as well. For the Haura Haela, Belepa is a widely used name, although locally Belepa means a place within the Haura Haela locality. As Table 3 shows, I have joined with Belepa as a name for the dialect. By a refinement of analysis Keuru could be regarded as a dialect distinct from Belepa, just as Moveave could be separated from Toaripi, Melaripi from Kaipi or Muro from Okololo. The differences between these various forms of speech is not such as to warrant increasing the list of names of dialects in the present context.

The Aheave Haela, the smallest of the sub-tribes, have their hamlets located on the banks of the Vailala River. In recent years some of them migrated for a period to the Purari River. Their dialect, like Keuru-Belepa and Muro, has close affinity with Orokolo.

8.11. Inter-Dialect Variation

Within any given dialectical boundary there is no absolute uniformity of speech. What degree of variation will be encountered depends on the origin of a community and its affinities with its neighbours. Amongst the Toaripi villages from Lelefiru to Lalapipi, which have become established since the 1930's by migrants from the former dual village of Mirihea-Uritai, there is uniformity in speech. Between them and Moveave there is however considerable variation, which is not so much in vocabulary, although variations in vocabulary are not lacking, as in intonation. There are, it may be added, differences in vocabulary between Heavara and Heatoare, the two 'sides' of the dual village of Moveave.

Between the villages from Kearu to Moroi on the one hand, and Karama to Toare on the other, there are some vocabulary differences, although in the present scheme both are included within Kaipi. These differences of vocabulary are fairly typical of what is found within other dialectal boundaries, and Table 4 is given to illustrate the point, calling Koaru to Moroi 'Kaipi (a)' and Karama to Toare 'Kaipi (b)'. It should be added that in general by far the greater part of the vocabulary of the former agrees with the latter. The terms listed here have been selected because of their differences.

Table 4

English	Toaripi	Kaipi (a)	Kaipi (b)	Orokolo
<i>dry</i>	arara	akaka	olala	kakarara
<i>far</i>	ara	ara	aeara	hahi
<i>near</i>	haekao/hoi	hoekao	hoe	maea
<i>not</i>	kao	harokao	haloka	ka
<i>short</i>	harua	halua	haluva	kahekai
<i>smooth</i>	vevete	peore	vevete	hapirapaka
<i>that</i>	lea	lea	la	la
<i>this</i>	mea	mea	ma	ma
<i>tie (v)</i>	saepai	saepai	satati	haha
<i>wife</i>	ua	ua	uva	uva

Variations of Kaipi

It may be noted that Kaipi (a) shows agreement with the Toaripi spoken by their neighbours to the east, while Kaipi (b) reveals some affinity with the Orokolo of Western Eleman. The opposite is true in the case of the first and sixth words. If equivalents be listed for the Melaripi villages westwards from Kaipi, still further differences of vocabulary would come to light, although a general close affinity is also to be seen, which affinity extends beyond the sub-tribal boundary to include also the Uaripi of Kerema Bay.

8.12. Lexical and Semantic Variations

The simple comparison of word lists in Appendix H (pp.579-585) obscures to some extent the underlying affinity between the various forms of Eleman speech, for words not only undergo changes of form, but also changes in meaning. Although the Eleman had what is largely one linguistic inheritance, the various Eleman communities have not developed this inheritance in precisely the same way. Some variations in vocabulary owe their origin to diverse ways of compounding and joining words, or through different choices from the options open to the Eleman speakers. Space will only permit a limited look at this fascinating facet of language study. For our examples we shall examine more closely a few of the words from the Appendix H (pp. 579-585).

For No.20 on the word lists, *knee*, Toaripi compounds *ari* with *hau*, which = *joints*; cf. Toaripi: *kirihau elbow*, *tola hau knot in wood*. The Western Eleman from Opao to Orokolo combine *ari* with *mora* or *loa* meaning *leg*. For No.22, *blood*, we find *ovo* throughout Eastern Eleman. The Western Eleman have *opu* or *apu*, which is also an Eastern Eleman word, having there the meaning of *sap*, or *juice*; e.g. *tola opu tree sap*, and *kō-opu breast juice*, i.e. *milk*. The Western Eleman has also this meaning in addition to *blood*; *juice* would seem to be the basic connotation of the term. When steel tools first became known, *auri*, originally a Tahitian word but which came into general use through the Pacific as the term for iron, steel, or metal, was adopted by the Eleman. There was a need to find a word for rust. To the Orokolo the colour of rust suggested blood; hence *auri apu metal blood*. The Toaripi saw an analogy between rust and mildew, *siri*, that develops on timber; hence *auri siri, metal mildew*.

The word for *heart* (No.25) shows a wide variation of form ranging from *lakakare* of Eastern Eleman, *laukahae* of Keuru, to *hoipe* of Orokolo. The first word is actually the name for a small coconut that falls from the palm without developing. In former times these were carved with clan designs and used as charms. The Orokolo word for these *lakakare* was *marupai*. The Keuru: *laukahae* means *breadfruit seed*, the breadfruit being the Papuan type which has a fruit full of large seeds, somewhat like chestnuts in appearance and flavour. The original form of the word for *heart* would seem to have been preserved in the Uaripi: *saife* (cf. Muro: *haipe*, Orokolo: *hoipe*). The other terms, *lakakare* and *laukahae* must owe their origin to a characteristic of Eleman speech, namely a fondness for metaphor or analogy, in which objects and actions are

spoken of in a way that puts them into another but metaphorical setting. Orokolo also uses this term *laukahae*, but applies it to the kidneys, instead of the heart.

The second part of this *laukahae*, namely *hae*, or as it is in Eastern Eleman forms of speech, *fare* or *fae*, has as its root meaning *fruit*, *nut*, or *seed*; it is also applied to various objects that have some resemblances to fruit or seed; e.g. No.49, *egg*, Toaripi: *ori fare*, Orokolo: *ori hae*; similarly Toaripi: *isave fare*, Orokolo: *aitave hae pearl*. The basis for calling parts of the body *fare* or *hae* becomes clearer when it is realised that with fleshy types of fruits, such as breadfruit, the term has reference to the nut or seed, rather than to the fruit as a whole. Hence we get for No.9, *eye*, the variant forms: *ofae*, *ofare*, *ohae*, *ovohae*. Similarly Toaripi: *kōu-uti fare the fare of the backbone*, i.e. *kidneys*, and also *kō fare*, Orokolo: *kou hae, the fare of the kō, scrotum*.

In Toaripi, Sepoe and Kaipi: *kō* is also the word for *breast*, (No.19). This must have originated as some joking analogy, which did not spread beyond the Kaipi. Uaripi, which seems to have preserved the original form of a number of Eleman words (e.g. *futai feast* for which Toaripi has *sosoka*), has *avaihi*. With this compare Orokolo: *amae*, and *ame* which has identical form in both Namau and Raepa Tati.

A similar type of origin doubtless accounts for the variation in No.30, *cloud*, for which the Eastern Eleman have *mea-e faeces (e) of the wind* (*mea*), although in this case the Uaripi also adopted the expression. The original word, seen in Keuru: *mea-uru*, Orokolo: *meuru*, and also in Raepa Tari: *mene-uru*, has the meaning of *darkness* of the wind or weather. Compare Toaripi: *maea uru* which means *black* (No.57).

The need to guard against confusion of meaning of homonyms or near homonyms is doubtless the reason for employing compound forms in the place of simple nouns. All the forms of Eleman use this device, but not necessarily for the same words. Thus No.7 *head*, *haro* becomes *haro-fave head-stone* in Toaripi, but continues as *haro* from Uaripi westwards (cf. Raepa Tati: *aro*). Sepoe has *harokuku*, *kuku* meaning an unopened bud. The simple form *haro* occurs in Toaripi in such compound expressions as *haro tui* (No.8), where *tui* is an introduction from Motu (*hui-na*), the change from /h/ to /t/ possibly being the result of the influence of *haro tupe top of the head*, which is the Sepoe term for *hair of the head*, cf. Toaripi: *mai tupe*, the upper reaches of a river (*mai*).

The root forms of a pair of words found throughout the Eleman have a very close resemblance. The variants that have arisen doubtless had

their origin in the need to distinguish one of the pair from the other. These words are *ovo eye*, (No.9), and *ōva ear*, (No.11). Toaripi actually has two words for ear, *kirori* meaning the *outer ear*, and *ōvauta* the *inner*. Elsewhere this distinction is not found. The variants, *avato*, *ovoko*, *moko*, and *avako* found elsewhere, appear in Toaripi as *avato*, which means the *ear lobe*; hence Toaripi: *avato korau*, a large ear ornament now no longer worn. The Kaipi word *avala* is made up from *ava+ula*, the latter term in Toaripi: *uta* (hence *ōva-uta*) meaning *hole*. The root form *ōva* is encountered occasionally in Toaripi; thus, *ōva muiaia show ears*, i.e. *listen*.

The root form for *eye*, *ovo*, is often found abbreviated to *o* in compounds. Hence Toaripi: *ofae* (*o+fae*), which in Orokelo and elsewhere appears in the full form, *ovohae*. Sepoe abbreviated the *ovo* but has the full form *fare* instead of the shortened *fae*, i.e. *ofare*. In compound expressions in Toaripi the original form may still be seen, e.g. *ovororo tear*, *teardrop* (*roro*, *rubbish*), *ovotui eyebrow hair* (*tui*, *hair of head*). For *eyelid* one can use in Toaripi either *ofae pute* or *ovopute*. This in Orokelo is *ovohae iilu*, the *skin of the eye*. Although Orokelo generally uses the full form *ovo*, the abbreviated *o* is not unknown, e.g. *o ma eye water*, i.e. *tears*.

In No.37, *mountain*, the word lists give us two forms, *raepa* in Eastern Eleman and *Opao*, and *kela* for the rest of the Western Eleman. The latter may be seen also in Toaripi, for if we apply consonantal changes we get *tela* or *tera*, the Toaripi for 'high areas' of land in the swamps, used for gardens or for planting coconuts.

The variant forms for *give*, (No.70) can be accounted for along the following lines. In all the Eleman languages and dialects /m/ and /v/ are allophones, as are /l/ and /r/. The word for *give* had its origin in *ovi get*, *have* plus the auxiliary *arai*, *ara* or *lai* (see pp.327-8); *cause to have*. In Toaripi the initial *o* has disappeared, and the word has thus become *vi-* or *mi-arai*. It may be added that Orokelo developed the verb form further by the use of the infix *-ki-* from *iki come*; hence *avikiara give to* (person speaking), made up from *avi+ki+ara*.

8.13. The Clan Terminology

Throughout the Elema there is a social grouping termed by anthropologists 'dispersed clans'. This grouping forms the basis for certain forms of traditional speech, consisting of honorific titles, exclamations of various kinds, and special names for parts of the body

and intimate possessions. There is no Eleman word that has as its meaning 'dispersed clan', but at the local village level, for what may be termed the 'sub-clan', there are a number of terms from which we may single out Toaripi: toruipi as one in general use, and its Orokolo equivalent vila-ipi. The meaning of ipi in both Toaripi and Orokolo is *base* or *origin*; Toaripi: toru = *deep*. Hence toruipi implies a group whose bond of kinship is 'deep' or 'remote' in origin. The Orokolo: vila-ipi is a reference to the patrilineal nature of the sub-clan; vila = *man*, *husband*. In his account of the 'dispersed clans' (Williams 1940:41) these are called 'Aualari Groups', and the word 'clan' is reserved for what I am calling here the 'sub-clan'. His name is appropriate enough, but it seems better to use the recognised term for such a grouping.

In the list of criteria given above whereby the sub-tribes may be distinguished, there is one item that states 'variations in the terms for the sub-clans'. The variations make it difficult to find names that have sufficient currency to serve in a list of the dispersed clans. It is a simple matter to give the names of the sub-clans for any particular village community. To collate these names with a list obtained in a village belonging to some other sub-tribe may entail some research, but is still a fairly simple undertaking. To give a list of names of clans that will have a general application can only be done by being arbitrary. Following Williams these dispersed clans may be considered as being ten in number, and the names culled from the Eastern and Western Eleman can be equated as in Table 5.

Table 5

Eastern	Western	Clan Ancestors	Variants
1. Auiipi	Auma	Oa-Evoa	Kari-Marupi
2. Kaipi	Purari Miri	Meavea-Kivovia	Oa-Kaiva
3. Laipi	Nabo	Oa-Marai	Mirou-Serei Mavaro
4. Lava1-ipi	Maiu (Baiu)	Oa-Lava1	-----
5. Leikipi	-----	Oa-Erevu	Maiu
6. Luipi	Vailala	Oa-Luvu	-----
7. Melaripi	Ahea Hurava	Toivita	Melare
8. Savoripi	Kaia	Oa-Epe-Savora	-----
9. Sove-Heaea	-----	Oa-Sove	-----
10. Uaripi	Kauri	Oa-Molala	Oa-Kave

It may be noted that in two instances there are two Western Eleman names to correspond to single ones in the Eastern list, thus leaving two gaps, 5 and 9, in the Western list. This is because in the case of the Kaip1 clan (No.2) some of its characteristic features are found in the Purari clan, others in the Miri. Similarly the Melaripi clan (No.7) can be correlated partly with the Ahea clan, partly with Hurava.

By translating his list of names Williams gives a misleading impression. These clan names are best understood as being derived from the Toaripi: ualare, Orokololo: aualari, a term which includes not only the mythical ancestors of the clans, but also the various linked totems. Such totems include birds, trees and plants, fish, animals, reptiles and celestial objects. These ualare not only feature in the clan myths, but are also natural objects of the Eleman environment. Thus aua (No.1) is a poetic name for the coconut for which la (No.3) is the everyday term. Lavai (No.4) has a variety of meanings, but here it probably means the 'porpoise'. Melare (No.7) and Sove (No.9) are birds. Uaripi (No.10) is derived from Uari, the Eleman name for Mount Yule, the flat-topped mountain that dominates the eastern horizon. It is behind Uari that Molala, the Morning Star, is seen to rise. Kauri means *sky* in Toaripi and *east* in Orokololo; both meanings here have reference to Oa-Molala, the Morning Star. In Epe-Savora, hence Savora-ipi, we have the traditional name for the iguana, the common name for which is Toaripi: ivuta, Orokololo: ivura.

Formerly stylistic representations of the totems formed the basis of the traditional art, seen on bark belts, votive plaques, barkcloth perineal bands, and on the semese and oioi masks. With the disappearance of the traditional art and the masked ceremonies, the totems have now little practical significance. Some mention of them is necessary, however, to make clear the clan terminology.

It will assist brevity to take one sub-clan as an example, and let this be the Melaripi as found in the village of Iokea. For *arm* and *hand* - the word mai covers both meanings - the Melaripi term is Meiri-mai Taura-mai. By a similar use of the two words Meiri and Taura, other parts of the body can be singled out for honourable mention; e.g. *legs* or *feet* Meiri-mora Taura-mora; *ears* Meiri-ōva Taura-ōva. Various kinds of food, in particular betel-nuts, are called Oro-fare Karo-fare, Oro and Karo being the tree totems of the sub-clan, while fare means *fruit*. Coconuts have, however, a special term la-iovu. Canoes lying beached have a name derived from the tree totem names just mentioned, but when

they are afloat the name is one taken from the fish totem names, Lalaupota Kipiripota. Other terms can be explained in a similar manner by reference to the clan mythology and the ualare names.

To address a person in a complimentary manner, instead of using his or her personal name, the name of the mythical ancestor is used. Such a name will vary according to the sex and age of the person in question. If we continue with the Melaripi sub-clan of Iokea as our sample, the title for senior males will be Oa-Melare; for junior males it will be Melare-Tivai Isou-Mao. When addressing or referring to a senior female, the honorific title is Lou-Eau Lou-Hovoa; for junior females it is Eauhovoa Sisafaro, or if addressing one girl, a person would say Mori-Eau.

There are also traditional exclamations such as Toaripi: isuta and Orokolo: ihura. Williams (1940:131-2) also gives a list of the Orokolo forms. Such terms are used in times of excitement or triumph, and may be regarded as parallel modes of expression with the honorific titles. In the isuta the person himself voices the name of his mythical ancestor; in the honorific title it is addressed to him or about him by someone else. In each case it is an identification of the person with his mythical ancestor. Among the Western Eleman Orokolo, for example, a man landing a large fish and exclaiming Oa-Hilake! would show that he belonged to the Vailala Clan, which on our collated clan list is No.6. An Auma man in a similar situation would say, Oa-Laho! or if he be a youngish man, he would add akore son, thus making the ihura exclamation Oa-Laho ve akore! *Sire-Laho's son.*

There are several types of these isuta/ihura exclamations for use on various occasions, such as the Toaripi: ma-isuta, Orokolo: ma-ihura, used when jumping into the water (ma). In former times when a crowd of dancers came down from their elavo *men's house* to begin a performance, they shouted out the appropriate mea-isuta (Toaripi and Orokolo: mea land, ground).

Traditional expressions are used on other occasions when excitement or emotion makes it fitting to do so. A Iokea Auiipi man, if injured, will exclaim Semese miai!. The traditional exclamations used after sneezing, the Toaripi: sia-o, Orokolo: hia-o *sneeze-ward*, may be classed in this category. On occasion these traditional expressions are used in ways that baffle the uninitiated, such as when an Auiipi father, acutely ill, exclaimed, Irave e, arave Heava-Maurisa paroroaita meha! *My sons, my Heava-Maurisa (canoe) is now sinking!*, by which he meant that he was on the point of death.

8.14. A Lexicostatistical Comparison

The following gives the cognate percentages of the Eleman languages and dialects based on 112 words listed in Appendix H (pp.579-585). Namau and Raepa Tati are also included in the comparison table, the percentages of the former being based on 110 items on the word list, the latter on 103.

Table 6

Toa									
87	Sep								
84	79	Kai							
69	70	74	Uar						
61	64	64	75	Opa					
48	50	51	60	68	Keu				
47	49	50	57	67	82	Ahe			
61	62	65	72	76	74	73	Mur		
61	63	65	72	78	74	73	98	Oro	
8	7	9	11	10	13	11	11	11	Nam
17	17	20	21	20	17	16	20	21	15 Tat

Lexicostatistical Percentages

8.15. Toaripi

Toaripi was the first of the Eleman languages to be recorded. This was by O.E. Stone in 1880, who under the name 'Ilema', i.e. Elema, listed a vocabulary. Vocabularies were also published by W.G. Lawes (1888) at the end of his Motu Grammar, Chalmers (1889), and by F.E. Lawes (1891). Ray (1907:333-46) gives a grammar of the language based on an analysis of Holmes' translations and on information supplied by Pryce Jones. A later grammar is also outlined by Ray (1913-14).

8.15.1. Phonology

The six vowel phonemes are: /i, e, a, o, ɔ, u/.

Leaving aside words introduced from English or Motu, and also the second of each pair of allophones /m/, /v/, and /l/. /r/, the consonant phonemes in Toaripi are eight in number: /f, h, k, l, m, p, s, t/.

Vowels: The front /i/ has two allophones distinguished by duration and tension. The high close allophone is unrounded and long /i:/, as in *fi* /fi:/ *cry*. In unstressed syllables the allophone is /i/, e.g. *pipi* /pí:pi/ *butterfly*.

/e/ is mid open unrounded, and shows only a slight lengthening in stressed syllables, e.g. *lele* /léle/ *white Egret*.

/a/ has the following allophones: /æ/, /a/, and /ə/. In stressed syllables /a/ occurs, e.g. *la* /la/ *coconut*, *laho* /laho/ *slender-billed Pernkite*. In final unstressed syllables, and in unstressed syllables preceding a long stressed vowel, the phoneme becomes /ə/, e.g. *fifa* /fí:fə/ *abscess*, *makuri* /məkú:ri/ *life*. In other unstressed syllables the vowel tends towards /æ/, as in *pasisa* /pəsí:sə/ *ladder*. In *lalava* *room* there are all three allophones, /lælávə/.

A similar contrast in length as that found in the front vowel is seen also in the back vowel /u/, e.g. *mu* /mu:/ *vomit*, and *tapu* /tápu/ *grave*. Both allophones are present in *pupu* /pú:pu/ *taboo sign*.

The mid close rounded /o/ has only a slight lengthening in stressed syllables. An example showing this contrast is *folo* /fólo/ *sand*.

/ɔ/ is a low close rounded vowel that normally shows only a slight variation in length in stressed syllables, e.g. *korōvu* /koróvu/ *childless*. In *pitōō* *swamp crayfish*, which takes an unusual final stress we get /pitó:/ . On occasion /ɔ/ occurs with /o/; e.g. *oōvai* /oovái/ *withdraw from public appearance* (as at death of near relative), and *oroōfa* /oróɔfə/ *lime chew*.

Ray (1907:334) states that this /ɔ/ is found only initially or with f, k, l, p. This is incorrect, it occurs in association with all the consonant phonemes, e.g. *hohōroai* *to collapse*, *mōvoa* *here*, *sōpe* *cooked*, and *itōva* *hornbill*.

Diphthongs are common: /ie, ia, io, iu, ei, ea, eo, e, eu, ai, ae, ao, au, oi, oe, oa, oo, ou, ɔi, ɔe, ɔu, ui, ue, ua, uo/. These may be analysed as a sequence of two phonemes of unequal duration, with a glide from one vowel position to the other. Sometimes the first of the pair of vowels is the longer. Thus the syllabic of *sia* /siə/ *okari nut*, begins with the high front position of /i/ and moves to the mid-central position of /ə/. If the duration of /ə/ be taken as one mora, then two morae is approximately the duration of /i/. With *siahu* /siahu/ *power*, the position is reversed, for the second vowel takes the stress; the /i/ of the diphthong is one mora, while /a/ is two. How the vowel length is influenced by the stress pattern is demonstrated by *iavai* /iəvái/. The

first diphthong becomes shortened to half length on account of the stress of the initial vowel of the second, although relative to the /ə/ the /i/ which precedes it is still twice as long. We find a similar contrast with the diphthong ea. Thus mea /méə/ *wind*, with lengthened first vowel, contrasts with easo /eáso/ *fish spear*, in which the initial short /e/ moves to the long /a/ where the stress is located.

Vowel clusters of three vowels are also common: /iae, eia, eai, eae, aia, aea, aie, aio, aue, auə, oia, oea, oai, oae, oao, oau, uao, uae, and uau/. Generally the medial vowel of these clusters is lengthened to about twice the length of the vowels that precede or follow it, and takes the stress: e.g. eae /éae/ *erroneously*, oea /oéa/ *converb of oesai prise out*. An exception to this is with clusters that begin with the low central position of /a/. This is then the lengthened vowel and takes the stress, e.g. maea /máea/ *body*, aea /áea/ *another*. Some vowel clusters are quite lengthy, e.g. ioesai *twist round*; this may be analysed into /iðeái/.

In ordinary speech it is difficult with diphthongs and vowel clusters to identify with certainty some of the unstressed vowels. Informants, however, usually have no hesitation in saying which vowel is meant, and minimal pairs can be given. Thus ai and ae: a futai /a:futái/ *fire extinguish* and afutae /àfutáe/ *ashes, fireplace*. Similarly ao and au: ao /áo/ *termite*, and au /áu/ *verbal intensive*.

Consonants: The three voiceless stops: /p/, /t/, and /k/ are unaspirated, the points of articulation being bilabial, apical, and dorsal.

There is one voiced fricative /v/ articulated bilabially. As described earlier, this phoneme may be nasalised, particularly when in the initial position, but not usually elsewhere. This has resulted in the phoneme having two allographs v and m; e.g. meve *mango*. Where the phoneme is in a initial position without being nasalised it is usually because the word is one that is found in close association with another, so as to form one phonological word. Thus veveai always occurs with ma *water*, as ma veveai *make moist*. A further example is the genitive marked ve which always follows closely a noun or pronoun. With /a/ and its allophones there is a greater tendency to nasalise the phoneme.

As described earlier /l/ and /r/ are allophones and n may also be regarded as a sub-member of the same phoneme. There are some words taken over from Motu or English in which the grapheme n appears; e.g. nao *foreign*, nani *goat*. By the younger people who have had much teaching

of English in school, the grapheme is pronounced as a nasal; with the older generation it tends to be /l/. When the lateral phoneme is in the initial position, particularly in association with /a/ or its allophones, it is /l/; in other positions it tends towards /r/, e.g. *loroa current*. With /o/ and to a lesser extent /u/ the tendency is also towards /r/; e.g. *roro rubbish*, *murū hornet*. Where /r/ occurs in an initial position it is because the word in question is generally in close association with another; e.g. *éla roroai /èlæroroái/ twist string*. Similarly an adjective such as *rofo strong*, or *rauapo many* immediately follows the noun it modifies, and forms one phonological word with it, e.g. *uvi rovaea /u:virováeə/ big house*.

Stress: Words of two or three syllables usually take the stress on the penultimate syllable, e.g. *haro /háro/ head*, *sosoru /sosóru/ firefly*. There are some exceptions; e.g. *faitora /fáitorə/ now*. Final diphthongs take the stress as though two syllables, e.g. *mapai /mapái/ hear*. With *havōu game* this may be due to the omission of /h/ for there is also a lengthened form *havohu /havóhu/*. The same explanation may be advanced to account partly for the final stress of the personal pronouns, *ará, I*, *aré he, she, it*, *elá we (exclus.)* *eré they*. This final stress distinguishes them from other words having the same form but with the normal penultimate stress (see p.321). There are lengthened forms, i.e. *arao*, *areo*, *elao*, *ereo*, used when these pronouns are in isolation. When the object marker *-ro* or the genitive marker *ve* is added, i.e. *araro*, *arave*, etc., the stress assumes the normal penultimate position.

Where there are four or more syllables, there is a minor stress on the syllable two removed from the main penultimate stress; thus *karikara /karikára/ village*. Compounds exhibit this same stress pattern: *maeamariti /màeamaríti/ shame*. Reduplicated words repeat the stress of the stem, e.g. *sirisiri /sírísiri/ dirty*, *sosorusosoru /sosórusosóru/ radiance*. There is often a reversal of the normal pattern with onomatopoeic words, e.g. *kekekeke /kekékeké/ grey Sandpiper* (a bird named after the sound of its call); *hōhōhōhō /hōhōhōhō/ sound name of water over rocks*.

Juncture: There is close juncture between the components of a noun phrase. Thus a demonstrative and the noun following form one phonological word *lea mori /leamóri/*. The juncture is particularly close when the noun begins with a vowel; *mea otoare /mèotoáre/ this promise*. Between a noun and a modifier there is also close connection. Thus *tola lareva*

good tree forms one phonological word with the major stress falling on the adjective and a minor one on the noun: /tòlalaréva/. With numbers and *aea* *a, another*, the stress pattern and juncture is similar; *ekaka aea* /ekàkàééa/ *another fish*. Where the adjective precedes the noun there is also close juncture, although the noun then takes the main stress: *evera soa* /evèrəsóa/ *former time(s)*. The same stress and juncture pattern is seen with the relative form of the verb. This also precedes the noun; e.g. *toaraita karu* /toəràitəkáru/ *helping person, helper*. Between the postposition and the noun it follows there is close juncture; the main stress then passes to the postposition: *uvi voa* /uvivóa/ *in (to or from) the house*.

Pronouns on account of their final stress are particularly prone to close juncture with whatever follows. The object marker *la* or *-ro* makes a close juncture with the pronoun; this is recognised in the writing system by treating it as a suffix: *araro*, *arero*, etc. When, however, a pronoun is used as a subject marker, there is a slight disjuncture between it and the noun in apposition. To mark the disjuncture the noun is given a falling pitch: *lea karikara are....* /lèəkarikáráré.../ *that village it....*

In contrast to the close juncture between a demonstrative and noun, the interrogative *lea'what?, what kind of?* has a slight pause to separate it from the noun that it precedes, and it has a falling intonation: *are lea' karu?* /areléə̀karu/ *what sort of a man is he?* Possibly because of the somewhat awkward combination that this presents, there is a variant that can be used instead: *are lera karu?* /arelérákaru/.

With verb phrases there is also close juncture. Thus *mapai vei* /mæpaivéi/ *to hear*. The negative also coalesces with the verb: *aré mapaia kao* /aremə paia̯kao/ *he has not yet listened*.

Intonation: In the intonation pattern the accent is mostly on the last major stressed syllable in the phrase. The usual pitch contour in statements begins on the normal pitch, rises to high pitch at the accent, and then finishes with a falling terminal to low pitch. With questions the pattern is similar, except that following the accent there is a downwards glide, a pause, and the interrogative marker *ei* is at a low pitch. Occasionally the interrogative marker *ei* is heard in isolation, in the nature of an exclamation, = *is that so! indeed!* It then has a rising intonation.

By using * to mark the accent, the number 2 for the normal pitch, 1 for low and 3 for high, the following may serve as an example of question and answer: A arave atute la ofae eavai ei? /²ā:araveatútela+ofàee³vāi¹ēi/, *have you seen my son?*, a, ara arero ofae eavai /²ā:→arà²eréro+ofàee³vāi¹ēi/. For questions embodying interrogative the accent is on the interrogative: leisa kawai roi? /³lēisə²kəvā²f²rōi¹ēi/ *who will go (inland)?*.

Drawn-out action is sometimes expressed by using the converb form of one or the other of the auxiliaries, auai, loi, and drawing out the accented vowel on a high pitch, then a pause, after which the discourse is resumed at the normal pitch. Using to represent the drawn-out syllable, the following may serve as an example: lea atute seika fi a' ara harofave hehea loi, /²leatùteséika+fí⁴ā⁴*..... ²arà→harofávehe³hē⁴aldói /, *that baby boy has kept on crying and crying, I have a headache*. This can be quite an effective speech device.

8.15.2. Grammar

Many of the examples given in this section are from the author's large collection of native texts.

Syntactic constructions in Toaripi include: (1) Modification, in which the head of the construction is modified by the other constituent; e.g. sare hehea *sun hot*, evera etau *old thing*, haura kofa *straight very (true)*, soeaita ita *runaway pig*. (2) Predication, in which one constituent, the predicate, affirms something of the subject, which is the other constituent; e.g. morove arara lei²pe rattan-cane *became dry*; pipi meha *butterfly this*, i.e. *this is a butterfly*. (3) Complementation, in which a verb or verb phrase is attended by a complement; e.g. karikara kiripaia, *village leave*, i.e. *leave the village*; fara fera²i roi *song sing will*. (4) Subordination, in which one of the constituents is a postposition and the other a regimen, e.g. arero tai *to him*; areve arori voa *its top on*, i.e. *above it*; atutemori vei *children for*, *on behalf of the children*. (5) Coordination, in which the two equivalent constituents are joined together, usually by a pair of conjunctions; Eoi auka Luru ia *Eoi and Luru*; poi ita la ita *sago and coconut*; lō tera lō iti lei²pe *there went there came did*, i.e. *went to and fro*; soea vo teraia *run and go*, i.e. *go running*.

Noun phrases. Common modifiers of nouns are demonstratives and adjectives. As determiners the demonstratives take the position immediately before the noun. For most adjectives the position is

immediately following the noun; *tola kere timber hard*. If the adjective be one that requires the front position, the demonstrative normally comes between; *arori lea fave top that stone*. It is possible, however, for the demonstrative to modify both noun and adjective; *lea arori fave that top-stone*. Nouns can also be used as modifiers; *karikara karu village people*. Such a noun-adjunct construction is very common. When a noun phrase is made up of a demonstrative, a noun-adjunct construction together with an adjective, the position of the adjective may vary according to whether it modifies the whole or only part of the noun-adjunct construction. Thus, to adapt a phrase from the Eare-Marai myth: *lea ma-iri karu kofa those water-inside people true*, i.e. *the real people of the sea-depths*. If the phrase be: *ma-iri kofa lea karu*, the meaning becomes *those people in the real depths of the sea*.

Besides nouns and nominal phrases, other word classes, notably the relative verb forms may occupy the adjunct position, the indefinite relative being commonly used for this purpose because it is unmarked for tense or aspect. The relative verb as a modifier may take a negative and/or an adverb. A demonstrative determiner occupies the position immediately before the noun head, e.g. *mapai auke leita lea karu listening not doing that person (or those persons)*. With an adverb we get *metakao mapaita karu carefully listening people*. A relative verb may take an object, a subject, and also an adverbial phrase. This is demonstrated by the following in which we have also an example of coordination: *are areve oroa voa evera opope lea fere ita koa ita*, *he his string-bag in previously put into those betel-nut and pepper also*, i.e. *those betel-nut and pepper which he had previously put into his bag*. Postpositional phrases may also modify noun heads; *tola arori voa lea pupuri tree top on that/those flower(s)*.

Occasionally a relative verb is used that has a nominal function in place of the noun head; in the following we have an example also of complementation; *ara tivi kekese auke ita soeai haiarara kofa*, *I work finish without with run-away unwilling quite*, i.e. *I am quite opposed to clearing off without finishing the work*.

Verbal phrases. By this is meant constructions in which a verb or a verb phrase forms the main predicate constituent of a structure of predication. One kind of verbal phrase is a structure of modification having a verb or verb phrase as the head, together with modifiers of various types. These are commonly adverbs whose position is generally immediately before the verb, although certain other positions are possible. Where there are

more than one adverb, or adverbial phrase, the preferred order is first time, second place, third and nearest to the verb, manner; *ara faitora lōvoa lavelave terai roi, I now there quickly go shall*. Adverbs and adverbial phrases can be coordinate; they are then linked by a repeated *ita with*: *are kitou ita o maealolo rauapo ita maea lei terōpe, he anger with words bad many with set out went*.

With a pattern somewhat similar to that of adverbs, postpositional phrases also modify verbal phrase heads; e.g. *aite sare voa Elailiri Lavao voa ata soeōpe, later day on Elailiri Lavao to again flew*. As this example indicates, the preferred order with postpositional phrases is also time first, next place, and finally manner. Here the time phrase comes before the subject; one could say, *Elailiri aite sare voa...* but it is more usual for the time phrase to be at the beginning of the sentence.

Another kind of verbal phrase is a structure of complementation in which, as described earlier, a verb or verb phrase has a complement as its other constituent. Where the complement is subject in nature the sentence is often of the non-verb type, e.g. *are karu savori he (is) person tall*. When tense or aspect is involved such a sentence will employ an auxiliary verb, e.g. *lea siare karu savori leiti roi, that boy person tall become will*.

With transitive verbs the complement may be a direct object, a noun, a noun phrase or a pronoun, e.g. *lea marisa teve uta la sape, those girls net holes (obj. marker) were-mending*. With an indirect as well as a direct object the complements are two in number. Both are in the object case, although unless they be pronouns they do not necessarily require the object marker. In the following both direct and indirect objects have the object marker: *ara mea fere la aro miarai vei iti, I these betel-nuts (obj. marker) to-you give to come*. The indirect object always takes the position nearer to the verb.

Sentences lacking finite verbs. For the purpose of our present study a sentence may be defined as an independent construction grammatically complete in itself. In accord with this definition there are in Toaripi, as indeed in all forms of Eleman speech, certain types of sentences commonly encountered that require no finite verb when they have a present or habitual reference. Should there be need to specify some other tense or aspect, the auxiliary *loi* or *auai* is employed in its appropriate form. An example of this has already been given.

The basic pattern of these sentences is predication with a noun, noun

phrase, or a pronoun as subject. Instead of a verbal phrase as predicate, we find one or the other of the following: (1) demonstrative, e.g. *uvi aea meha*, or more briefly *uvi meha house (a) this, this is a house*; (2) noun or noun phrase, e.g. *lea ua oti savori*, *that woman place distant*, i.e. *that woman is a long way away*; (3) adjective or adjectival phrase: *lea karu rofo rovaea kofa*, *that person strong bit true*, i.e. *that person is very strong indeed*; (4) adverb or adverbial phrase, e.g. *karikara faitora foromai haekao kofa*, *village now altogether near true*, i.e. *the village is now quite close at hand*; (5) with interrogatives, e.g. *a ita heavita rare leisa? you - man name who?*; (6) with *ita* or *ia* with, implying the presence of a person, thing or quality, e.g. *are naosoi ia he knife with*, i.e. *he has a knife*; (7) with negatives indicating the absence of a person, thing or quality, e.g. *ereita poi kasirau we sago none*. For an example using a postpositional phrase: *uvi voa karu kao house in people not*, i.e. *there are no people in the house*; (8) with nouns such as *ore knowledge, ability, haveva ignorance, inability, horahora uncertainty, kitou anger, eka sickness, ivutu sleep*. The non-verb sentences of this last type differ from all the others in that they can have an object, e.g. *ara arero ore I him knowledge*, i.e. *I know him*: *ara lea karu haveva I that person ignorance*. By adding *ore* at the end of the sentence just given, *haveva* can be turned into an adjective: *ara lea karu haveva ore I that person ignorant knowledge*, i.e. *I know that...* With the meaning *ability, skill*, *ore* can enter into a construction with the relative indefinite form, as indeed can its antonym *haveva inability*. Thus: *are uvi turaita ore he house building ability*, i.e. *he knows how to build a house*. In such a construction the relative indefinite may have an object, an adverb or a postpositional phrase in association with it, e.g. *a mea kite voa metakao ivutu iavaita ore you this mat on well sleep lying-down ability*, i.e. *you'll be able to lie down and sleep well on this mat*. Although the great majority of sentences lacking finite verbs are simple in structure, it is possible, particularly by the use of the relative verb, to have compound sentences without finite verbs.

Simple sentences with verbs. By a simple sentence is meant one that has only one predication, and here the verbal phrase forms the predicate. Both noun phrase and verbal phrase, the constituents of a structure or predication, have already been considered. What concerns us here are certain aspects of the sentence structure as a whole that stem from the joining of the constituents together. These include word order, concord,

and the substitution of a pronoun for a noun in the predicate where that noun is also the subject.

In the great majority of sentences the subject precedes the predicate; e.g. *ara mapai I hear* (S V). If there be an object, the word order is then *ara arero mapai I him hear* (S O V). Occasionally the object is placed first for reason of emphasis, and the word order is then O S V. An example of this can be given from the myth of Oa-Iriarapo: *araro ere kika soi sa elori vei la roi me they bamboo knife with cut-open to are-about*. Although both direct and indirect objects may take the object marker, the indirect object (R) takes the position nearer the verb. The order is thus: S O R V.

With questions the interrogative takes the position next to the verb, the order then becoming O S V. If the question contains also an indirect object, the order is O R S V; e.g. *mea o aro leisa moita? this word to-you who said?*.

Concord of number between subject and verb is somewhat complicated. Both nouns and verbs in general are unmarked for number. Where a plural form of a verb is available, plurality is to be assessed by the state or condition described by the verb. It is not simply the outcome of concord with a plural subject. With transitive verbs the agreement is with the object rather than the subject, e.g. *are areve etauroro oroti voa opope he his things canoe in put* (plural v.). With a plural subject, *ere ereve... they their...*, the rest of the sentence would be unchanged. With this compare; *ere ereve etau oroti voa vuopope they their thing canoe in put* (sing. v.). Nevertheless, with the stative verbs, which have singular and plural forms throughout, and other intransitive verbs there is generally a plural verb form with a plural subject, e.g. *farisa hea tola voa la fofoea arrows some tree from are-sticking-out* (plural).

When the subject and the noun in the predicate are one and the same, the reflexive form of the pronoun is required. This is *elore*, plural *elore elore*, which for clarity is sometimes preceded by the appropriate genitive form of the personal pronoun, i.e. *arave elore*, etc. Thus: *are elore* (or *are areve elore*) *ove ma iri voa ofae eavope he (his) own reflection water in saw*.

Compound and complex sentences. By compound is meant the coordination of two or more simple sentences; by complex, when one or more of the predications is subordinate in nature. In our analysis we shall regard them as being built up out of simple sentences. This may involve changes

to word order, alterations to verb forms, the use of pronouns for nouns, and the elimination of some elements or the additions of others.

Coordination is the simplest method of joining two sentences. This may be done by adding one sentence after the other, sometimes by a conjunction such as *aea* and. This and the two following examples are taken from the Eare-Marai myth.

Ma iri karu ia.	}	Ma iri voa karu ia, aea ere
Ere Marai vei haisora rovaea leiape.		Marai vei haisora rovaea leiape.

Sea interior people with. They Marai on-account-of sad very were, i.e. There were people in the sea depths, and they were much distressed on account of Marai.

Without the addition of conjunctions there are such compound sentences as the following, in which the two clauses are linked by a closely parallel structure, intonation represented by the comma, and by a single introductory vocative:

Marai e, sare aea haisai ae peava.	}	Marai e, sare aea haisai
Marai e, sare aea foreraia.		ae peava, sare aea foreraia.

Marai, day one rest always. Marai day one go-out (to sea).

Marai, take a rest one day, go out on another.

When the two sentences have closely parallel structures and include duplicated material, this may be omitted from part of the compound sentence:

Ara vevekoko ita iava vovea.	}	Ara vevekoko ita iava vovea,
Ara vevekoko ita itoi vovea.		itoi vovea.

I cold with lie down always. I cold with get up always.

I always lie down chilled (and) get up (likewise).

Where the predicate of two sentences joined together are in close agreement, the second predicate may be replaced by *ta also*, with the demonstrative adverb *lōri* or *lōfeare like that*, and the auxiliary *loi*.

Aro fau ipi voa taiape.	}	Aro fau ipi voa taiape, Poro
Porō fau ipi voa taiape.		ta lōri leiape.

Aro fau (tree) base at was waiting. Porō fau base at was waiting. Aro was waiting at the base of the fau tree, as was Porō also.

A briefer way of constructing such a compound is to omit both adverb and auxiliary, and use instead the predicative demonstrative: *Aro fau ipi voa taiape, Porō ta reha, ... Porō also that.*

For the construction of compound and complex sentences there are two important generalised transformations, the first being the substitution of the converb for the finite form of the verb. The converb is the verb form unmarked for tense, aspect or mood; these are known from whatever finite verb follows the converb. In the following example, taken from the myth of Oa-Laea, there are no less than nine converbs, although of these nine two require linking together because they describe a single action. The slant lines divide the sentence into its clauses.

Ere isai / elavo voa patei / kokoruka avi / uamori ereve larietau ovi
patei / elavo voa miōri / ere larietau kokoruka avi au lōpe.

When separated into its components, with the verbs in their finite forms, we get the following sentences; words omitted in the original sentence are placed in brackets:

1. Ere isaie. *They went (coastwards).*
2. (Ere) elavo voa pataie. *They men's house into climbed.*
3. (Ere elavo voa) kokorukōpe. *They men's house in gathered.*
4. (Ere elavo voa) avōpe. *They men's house in sat-down.*
5. Uamori ereve larietau ovi pataie. *Womenfolk their food got climbed (brought up).*
6. (Uamori ereve larietau) miarōpe. *Womenfolk their food gave.*
7. Ere larietau kokorukōpe. *They food gathered.*
8. (Ere) avōpe. *They sat down.*
9. (Ere larietau) au lōpe. *They food ate up.*

It may be noted that there is a change of subject in the course of this sentence.

The second important generalised transformation is by the use of the relative verb. By means of this all kinds of relative clauses can be constructed. The converbs may enter into a construction with a relative verb, and in that way clauses of some complexity can be formed. Here we take from the Pipi Korovu myth a sentence which contains a relative clause in order to show how the transformation of the constituent sentences is effected, together with the changes in word order that are involved in such a transformation.

Elaka a eapo ivahia omoia lea o evera mapaita.
S₁ S₂ V₂ O₂&₁ V₁

Separated into its constituent sentences we get the normal S O V in both sentences:

1. A eapo ivahia o omoita. *You may-we-say dream word spoke.*
 S O- V
2. Elaka lea o evera mapaita. *We that word already heard.*
 S O V

The relative verb is often employed in dependent clauses of time or location, the former being with *soa time*, or *sare day*, the latter with *oti place*. Such subordinate clauses of time or place can, however, be expressed by the use of the converb and an adverbial phrase. We take our example from the Oa-Laea myth: *Lea atute are rovaea lei mora itoipe soa, are mora ia, lea soa areve lou Avearo are Mirou la mō moipe....* In free translation this is: *When her son grew, and was able to stand and walk about, Avearo his mother said to Mirou....* The Toaripi is a transformation of the following sentences:-

1. *Lea atute are rovaea leipe. That son he big became.*
2. *(Are)mora itoipe. He legs stood up.*
3. *Are mora ia. He legs with = able to walk.*
4. *Lea soa areve lou Avearo are Mirou la mō moipe... That time his mother Avearo she Mirou (obj. marker) this spoke...*

By joining these sentences together again, but by using converbs instead of the relative verb, we get without change of meaning: *Lea atute are rovaea lei, mora itei aeata mora ia, aea lea soa areve lou...*

By another generalised transformation a constituent sentence may be transformed into some such nominal element as the subject or object of the main sentence. In this quotation from the Pipi Korovu myth there is a subordinate clause of time, followed by the main clause: *Ereuka ofae misilei eavōpe soa, Pipi Korovu are arori voa aiseseiape, they-two upwards looked time, Pipi Korovu he top on was settled.*

Divided into its constituent sentences we get:

1. *Ereuka ofae misilei eavōpe. They-two eyes raised looked.*
2. *Lea soa Pipi Korovu are arori voa aiseseiape. That time Pipi Korovu top on was-settled.*

By the use of a converb and the adverbial phrase that appears in (2), it is possible to transform the rest of (2) and make it the object of (1). Thus:

Lea soa ereuka ofae misilei / Pipi Korovu arori voa aiseseiape la / eavōpe. That time they-two eyes raised / Pipi Korovu on settled (obj. marker) / saw.

Demonstratives. In Toaripi, as in all forms of Eleman, the demonstratives are a pair of words assuming various forms, the constant features being the initial consonants m/v- implying 'nearness' and l/r- 'distance', immediately followed by one or the other of the vowels e, ō or a. The demonstratives vary also in the position they occupy; there is a close, although not a complete correlation between the varying forms and the variation positionally. There is, however, no variation due to number.

1. With the vowel -e the demonstratives function with nouns or nominally, or have the final position after verbs.

(a) as determiners before nouns: mea *this*, *these*, lea *that*, *those*;
e.g. mea etau *this thing*.

(b) as nominals in subject position; the form agrees with (1). mea
arave *this (is) mine*.

(c) as nominals in predicative position; meha (rarely maha) *this*,
reha (rarely laha); e.g. Avearo ve o kofa meha *this (is) Avearo's true word*.

(d) in final position with verbs to mark (i) phase, usually with meha;
e.g. a kotita meha! *you've come!* (ii) to modify tense, usually with
reha (see below under Verb System).

2. With the vowel ō for adverbial functions. While the simple mō lō forms are used quite freely, the adverbial suffix -ri is often added, mōri, lōri; or the compound with feare *like*, mōfeare, lōfeare may appear in certain contexts without any real change of meaning.

(a) to introduce direct speech with auai or moi *say* or *speech*, e.g.
Mirou mō ōpe, ... (or mō moipe) *Mirou this said...* With moi this could also be mōri moipe, or mōfeare moipe *this manner spoke*. Far more rarely lō, (lōri or lōfeare) may be heard at the end of the speech.

(b) with the auxiliary loi, usually as mōri, lōri, or mōfeare, lōfeare, e.g. mōri (mōfeare) leipe *in this manner did*. There is a parallel here with the formation with -uai (see (a)). Mōri, lōri, or mōfeare, lōfeare can also be used with a wide range of verbs, e.g. uvi mōfeare turai roi *house this-like build will*.

(c) with the following verbs in converb form mō occurs having a locative sense: patai *ascend*, faukai *descend*, iti *come*, and terai *go*, e.g. mō patei eakoa toepōpe *in-this-place went up and round*. It also occurs with a temporal sense in the phrase mō iso *this today*, i.e. *right now*, e.g. mō iso moita etau kao, evera moipe *not a thing that's just been said, it was said long ago*.

(d) A repeated *lō.... lō....* is used with verbs for a coordinate construction to express repeated action in different directions; the auxiliary *loi* is used to combine the demonstrative-verb phrase, e.g. *lō tera lō loi go here and there*. Different verbs may be combined in the construction, e.g. *lō tera lō iti go there come there, to to and fro*. Occasionally there is a combination of more than one verb in each part of the construction, e.g. *lō te sukava lō iti sukava wander to and fro*. As when the way is lost.

(e) with the postposition *vōa at* there are a further pair of compound forms: *mōvōa here, lōvōa there*.

3. With the vowel *a* (or *o*) as function words. In Toaripi we find only *l/r-* used for this purpose.

(a) with nouns, noun phrases and pronouns. The object marker *la*, or with pronouns *-ro*, is in origin a demonstrative. From Toaripi alone this cannot be shown, but in Orokelo and to a lesser extent in Sepoe we find *va* as the subject marker used in a way that is parallel to *la* (sometimes written as *ra* in the Orokelo scriptures).

(b) with verbs: *la* is here a verb form marker. It occurs with the plain form, with the present continuous, and with the immediate future. With the plain form the semantic force has not been lost completely, e.g. *are la terai* would be said when the person is still in view, *there he goes*; cf. *are terai he's gone*. The predicative *reha* is often added, however, to reinforce the demonstrative sense: *are la terai reha there he goes*. Similarly *ara la me meha here I am*, may also be expressed, *ara la mea* and mean much the same thing, *I'm here*.

With the present continuous the *la* has very little semantic force, e.g. *are tivi la lei pea he is doing work*. The *la* here would seem to have the function of distinguishing clearly *-pea* from *-pe* the remote past ending. Similarly with the immediate future, *la* marks the verb to distinguish it from the indefinite future. It follows the infinitive expressing intention, e.g. *sariva karu maea leiti vei la loi the travellers are about to set off*.

The possibility marker *varo (=ma+lo)* perhaps and the unreal conditional marker *lare (=la+le)* have their origins in the demonstratives. To show this clearly would, however, demand more space than is here available.

Nouns. Some compound nouns are formed from a noun plus an adjective, e.g. *mearovaeka*, from *mea land*, *rovaeka great*. Originally this meant 'main-land'; it now has the extended meaning of 'world'.

Far more numerous are compounds of nouns plus nouns. Although the components are usually represented as separate words, phonemically and semantically many of these compounds are really units with a varying closeness of juncture; e.g. *oru tivi /ʔrutívi/ garden work*. A common type of compound is one in which the first component modified the second, e.g. *tivi etau work thing*, i.e. *tool*; *uvi karu house person*, i.e. *a member of a household*. If the components be reversed, as is sometimes possible, there is a corresponding change of meaning, e.g. *uvi tivi building work* and *tivi uvi work building, workshop*.

There is no grammatical gender with nouns, or indeed with any other part of speech. There are, however, complex words or compounds (n.+adj.) which have such components as *oa father*, *lou mother*, *atute son*, *mori daughter*, *vita man*, *husband*, *ua woman*, *wife*. Combined with *kokoe junior*, *-apo senior*, and *lelesi without spouse*, we find such words as *oa-kokoe father's younger brother*, and *lou-kokoe*, such a person's wife; *moriapo elder sister* female speaking; *ua-lelesi* and *vita-lelesi widow* and *widower*. These are mostly terms of relationship.

For animate referents there are the terms for *male kaisōva* (immature) and *torea* (full-grown); *female ōvu* (immature) and *lou* (with offspring). The male terms are never used for persons, but the female terms are not so restricted; *morōvu younger sister*, female speaking, and *paulōvu husband's elder brother's wife*. For *cock vita man* is often used, i.e. *kokora vita*; there are also special words for crabs, *misa ase* being the male, and *misa kapera* the female.

Nouns are generally unmarked for number; *karu person* or *persons*, *uvi house* or *houses*. Nevertheless there are a few nouns that have reduplicated forms to indicate plurality. Such words are: *toruipi*, *toruipi-ipi clan(s)*; *soa*, *soasoa occasion(s)*; *firu*, *firufiru piece(s)*; *koru*, *korukoru lump(s)*; *oti*, *otioti place(s)*; *sitavu*, *sitavu sitavu crowd(s)*; *tao*, *taotao* or *tao asease age-set(s)*.

An indication of plurality can be given to a noun by the use of a plural adjective, where this exists, or by such adjectives as *rauapo many*, or *hea some*; e.g. *karu rauapo many people*. Numerals with nouns likewise demonstrate plurality, although the noun itself remains unchanged in form.

Although apart from the exceptions mentioned above, nouns are generally unmarked for plural, there is, nevertheless, a special class of noun that have singular and plural forms throughout. These are terms of relationship, and they indicate the important part played in

Eleman society by ties of kinship. The mode of forming the plural, apart from compound forms already mentioned, is by adding -ita or -uta, -osu or -usu to the singular. Thus mileri, milerita *ancestor(s)*: ōva, avaiosū *son(s)-in-law*; arivu, arivusu *sister's son(s)*. With uevi, uepisuta *daughter(s)-in-law*, we have what is really a combination of -uta and -usu.

The object, instrumental and genitive markers. As used with nouns these are syntactic rather than morphological, for they can be used with phrases and even clauses as well as nouns (see p.316). Here is, however a convenient place to deal with them because we shall be dealing next with pronouns, and they occur also with them.

The object marker la has already found mention on p.318. It does not invariably appear with an object noun, for the object of a verb is often made clear enough positionally, e.g. Meavea uvi turōpe *Meavea house built*. When an object needs marking, however, it puts in an appearance. This is in line with its demonstrative origin. Thus: are paua ita marehari ita la eavōpe *he elder-brother also younger-brother also* (obj. marker) *saw*.

The use of the instrumental marker sa is not entirely parallel to that of la or ve the genitive marker, for whereas the other two markers are closely associated with pronouns phonemically and syntactically, the use of sa with pronouns is a matter of controversy. Some Toaripi speakers, although they use it with nouns, will not use it with pronouns. Yet I know people who use sa freely with both pronouns and nouns. That it forms a component of the subject form of the interrogative pronoun leisa (lei+sa) gives some support for its use with pronouns.

With nouns sa occurs with relative constructions, as is shown in the following from the Oa-Laea myth: ara arave paua sa Mirou sa moia o aro omoi vei koti *I my elder-brother by Mirou by said word you tell to come*. We find it also with inverted constructions where for reasons of emphasis the object of the verb is placed first, e.g. aro elave oa sa sukai ave you (obj.) *our father by meet lest*. It is frequently found with the stative verbs, e.g. ape ve uta sa haria eaiape *mouth's hole by only was* i.e. *there was only the hole of the mouth*. Occasionally it is found with coordinate constructions, e.g. are rapi la patai reha, a-karu sa patai *he, may-I-say, ascends there, or person by ascends*, i.e. *that's him coming up, if I may say so, or it's just somebody coming up*.

The genitive marker ve usually occurs before another noun, the 'head-word', e.g. uamori ve tivi *women's work*; Mirou ve marehari *Mirou's*

younger-brother. In a double genitive the *ve* is repeated before each 'head-word', e.g. Avearo *ve uvi kou tola ve rate...* *Avearo's house roof timber's name...* In what is sometimes called the 'independent genitive' the 'head-word' may be omitted; thus *mea uvi Haro ve this house (is) Haro's*. A double genitive could also appear in such a construction: *mea uvi Haro ve marehari ve this house (is) Haro's younger brother's*. In answer to a question there can be the noun only with *ve*, e.g. *mea uvi leive? Haro ve this house whose? Haro's*.

The position of the genitive marker is following any modifiers that the noun may have, e.g. *lea firu rovaea ve rare Lavao that island big's name Lavao*. If the genitive marker comes between the noun and what is usually classed as an adjective, then the latter is to be interpreted as an abstract noun, e.g. *lea firu ve rovaea are soa haria that island's bigness it (is) occasion different, i.e. the size of that island is remarkable*. Similarly, *karu ve lareva meha person of goodness this, i.e. this is a really good person*. When the genitive marker links the noun with such postpositional phrases as *omopa voa, aite voa, arori voa before, behind, above*, this may be interpreted along the same lines, e.g. *uvi ve omopa voa house's front at, i.e. in the area before the house*. With this compare: *uvi omopa voa before the house*.

Pronouns. The subject personal pronouns are given in Table 7.

Table 7

	First Person	Second Person	Third Person
Sing.	ara (arao)	a (ao)	are (areo)
Dual.	elaka	euka, auka	ereuka, auka
Plur.	(exclus.) ela(elao) (inclus.) ereita	e (eo)	ere (ereo)

Personal Pronouns

In brackets are the emphatic forms used when the pronouns appear alone, e.g. *leisa terai roi? Arao. who will go? I*. In the dual second and third person, but not the first person, *auka couple, pair*, can be substitute for the fuller forms which are compounded from the plural bases plus *auka*; i.e. *euka = e+(a)uka* and *ereuka = ere+(a)uka*. Although *auka*

cannot be used for the first person dual, the form *elaka* is evidently formed after the model of the second and third persons.

With the subject forms as the base, the object marker *la* in the form of *-ro* is suffixed to produce the object form. Similarly the genitive marker *ve* is used as a suffix to produce the genitive forms: i.e. *araro*, *arero*, *elakaro*, etc., and *arave*, *ave*, *areve*, *elakave*, etc.

In the same manner the interrogative pronoun *who?*, with the base *lei*, adds *-ro* and *-ve* for the object and genitive forms, i.e. *leiro whom?*, *leive whose?*. As already described, the subject form has the instrumental marker *sa* as a suffix, *leisa who?*, the reason for this form being the need to normalise the stress pattern, as well as guarding against confusion with *lei*, converb of the auxiliary *loi*.

As the forms given above show, pronouns in *Toaripi*, and in *Eleman* generally, are distinguished for person, number and case. The first person singular always means the speaker or writer. When two people only are talking or corresponding, the dual then means these two. When the dual is used in speaking to others, the name of the person associated with the speaker may be added to the dual pronoun with *ita* *with* following the name, e.g. *elaka ua ita we-two wife with*, i.e. *my wife and I*.

There is a distinction made in the first person plural between *we* inclusive (including the person addressed), and *we* exclusive (excluding such a person). The dual first person may be inclusive or exclusive, but the addition of the name of the associated person in the manner described above, makes the dual exclusive.

By the 'second person' is meant the person or the people who are being addressed. In the 'third person' neither the one speaking or writing, nor the person(s) being addressed are included, but some other person(s) or thing(s).

It should be noted that the plural form of the pronoun is used following a noun modified by the adjective *farafarapo* *each*, *each one*, e.g. *karu farafarapo ereve elore elore firu... each person their (=his) own portion...*

There is a common use of the subject form of the pronoun whereby a noun subject is followed by an appropriate form of the pronoun, e.g. *Mirou are... Mirou he...* The construction is not entirely pleonastic in that the pronoun is able to indicate clearly the number and case of the noun with which it is in apposition. This otherwise might be in doubt, e.g. *lea karu leavoa? where (are) those people? or that person?* With *lea karu are leavoa? that person he where?* the ambiguity is removed.

The substitution of *ere* for *are*, would make the subject plural.

The object forms are used not only for the direct object, but also for the indirect: *lea marisa oraka lariatau arero miarōpe*, *the two girls gave him food*. As earlier stated (p.313) the indirect object takes the position nearer to the verb.

One special use of the object form is preceding the postposition *tai to*, *motion towards*, used only with reference to persons, e.g. *erero tai to them*. A noun in this position before *tai* never has the object marker *la*. This is in accord with the general use of the object marker, namely that where its absence will not result in ambiguity, it is omitted. Here *tai* makes the *la* unnecessary. It should be added that postpositions in general do not require the object form.

The genitive remains unchanged in form when it is used as a noun modifier or determiner (first genitive), or when its function is to substitute for a noun as well as being the modifier (second genitive). The position, however, is changed; for the first genitive it is before the noun, e.g. *arave mai my hand*. For the second genitive the pronoun has the predicative position, e.g. *mea naosoi areve this knife is his*.

A special use of the first genitive is with postpositional phrases formed with *voa*, e.g. *areve arori voa pavōpe rested upon him*. This construction treats *arori* as a noun, *his above on*. With this cf. *are arori voa pavōpe he stood on top*.

The interrogative *leisa who?* has been classed as a pronoun because it distinguishes between the subject, object, and genitive forms in the same manner as pronouns. Nevertheless in its preferred position as subject in the sentence it agrees with the interrogatives, in that it comes immediately before the verb, and is preceded by the object, e.g. *mea la leisa foita? this coconut who cut-down?*. There is a reduplicated *leisa leisa whoever*, that may be used for plural, but as subject only.

Adjectives. Out of 213 words which may be used as adjectives that are listed in the *Toaripi Dictionary* (Brown 1968), 172 occur post-noun and twenty-nine pre-noun; the remaining twelve in either position. Five out of every six adjectives follow the nouns they modify, e.g. *etau lareva thing good*. The others that have the front position, in other contexts fit other word classes, such as adverbs or nouns, e.g. *evera etau old thing* (*evera = formerly*). This also applies to a number of adjectives that have the rear position, but such words as are adjectives only, always follow the noun.

When the negative *auke*, denoting the absence of a quality, is placed after an adjective, the basic adjectival position is reversed; the negative adjectival phrase always comes before the noun, e.g. *lareva auke etau good not thing*, *evera auke etau old not thing*.

Like nouns adjectives generally are not marked for numbers, e.g. *uvi* are *new house* or *new houses*. However, a few adjectives have plural forms by reduplication in one way or another. Such adjectives not only modify the noun qualitatively but also quantitatively. Since reduplication is also used in part to intensify adjectives, the plural form is in some cases reduplicated from a different base than the singular. With only one adjective *lareva good* is there a possibility of confusion in this respect, e.g. *karu lareva lareva people good*. When used with intensive meaning *eite* is added: *karu lareva lareva eite person extremely good*.

Adjectives with plural forms are few in number; they are listed in Table 8.

Table 8

	singular	plural		singular	plural
<i>different</i>	<i>haria</i>	<i>hariaharia</i>	<i>big</i>	<i>rovaea</i>	<i>metameta</i>
<i>short</i>	<i>harua</i>	<i>hohorua</i>	<i>small</i>	<i>seika</i>	<i>kaekae</i>
<i>bent</i>	<i>kaiae</i>	<i>kaiaekaiae</i>	<i>long</i>	<i>savori</i>	<i>sosovori</i> ,
<i>slender</i>	<i>kapesa</i>	<i>kapesa kapesa</i>			<i>sasairi</i>

Plural Adjectives

As already stated, to intensify some adjectives reduplication is employed, followed by *eite meaning*. Such adjectives are: *rovaea big*, *sea white*, *koa high*, *lareva good*, e.g. *raepa koakoa eite very high mountain*. One adjective *seika* reduplicates without *eite*, *etau seika seika very small thing*. Two common adjectives, *rovaea* and *seika*, can take the suffix *-ka* or *-ko* to form *rovaeka very big* and *seikako very small*. Another suffix, *-apo*, denotes increase in size rather than a simple intensifying. It is used only to follow the suffix *-ka*; this must be for euphony. While *-ka* is not found with *savori long*, yet we get *savorikapo very long indeed*. To be really effusive *-apo* can be added to *eite* with reduplication, e.g. *lareva lareva eiteapo extremely good*.

In some cases *rovaea big* and *kofa true* can be used following other adjectives to intensify them. It is only when there is no other way to intensify an adjective apart from *kofa* that *rovaea* is used, e.g. *puta surusuru rovaea very wet cloth*. It is only after the simple form of the adjective that *kofa* is used, never following a form that has been intensified by reduplication or by a suffix, e.g. *lareva kofa truly good*, *rovaea kofa truly big*. Sometimes *foromai all, altogether* is inserted before an adjective to intensify it. Usually the adjective preceded by *foromai* is one which has been already intensified, either by the suffixes already described, or by *kofa*, e.g. *etau foromai seika kofa an altogether very small thing*.

A diminution of quality is expressed by putting before the adjective *taheka little*, but which in this context = *somewhat*, or *rather*. Thus *ma taheka hehea water rather hot*. An alternative method is by the use of *maea* following the adjective, e.g. *rofo maea rather strong*. Sometimes *feare like* is added: *rofo maea feare rather strong-like*. This use of *maea* should be distinguished from *maea* meaning *body*, e.g. *maea rofo strong body*.

As already mentioned, English numbering has superseded the traditional numbers, although one to three or four may still be heard on occasion in the vernacular. These English numbers occupy the traditional position following the noun, not, as in English, preceding it. In the traditional numbering 'two' and 'three' have longer and shorter form as the result of the presence or absence of *-ria*. The use of one or the other is simply a matter of euphony. The traditional numbers are: *one farakeka*; *two orakoria, oraka*; *three oroisorua, oroiso*; *four orakaraka*.

There are, however, no actual ordinal numbers, but rather expressions such as *omopa first*; *omopa kofa first of all* and *aite next*; *aite kofa last of all*.

The following indefinite quantifying adjectives take the position after the noun: *aea any, another*, *foromai all*, *hiake few*, *hea some*, *rauapo many*, *kasirau none*, *kakaeite none at all*.

While two or more adjectives may follow a noun, more than one may not precede it. Should such a necessity arise, then the construction with the relative verb is required. Thus one cannot say **evera arori fave*; this would have to be *evera soa arori voa eaiape lea fave former time top on was lying that stone*. An adjective preceding a noun may, however, take another to intensify it, e.g. *arori kofa fave topmost stone*.

Adjectives following the noun appear in this order:

(i) those denoting type of material; e.g. mafu *soft*; (ii) colour; (iii) shape and size; (iv) quantifier; (v) particularizer; e.g. haria *different, only*, aea *any*, aeata *another*. It should be hardly necessary to add that no normal phrase would ever include words from all these various types of adjectives. If shape and size occur together, shape occurs first: utape koko seika *small narrow doorway*.

A complication may arise from rovaea and kofa being used not only as simple adjectives *big* and *true*, but also as intensifiers of other adjectives. Thus: tola kere rovaea could mean either tola kere rovaea, *very hard timber*, or tola kere rovaea *big hard-wood tree*. The ambiguity is removed by the addition of aeata between the adjectives, i.e. tola kere aeata rovaea *a tree hard-wood and big*. The addition of aeata is not necessary with adjectives intensified by other means, neither is it required with adjectives of types (iv) and (v) which cannot be intensified. If kofa is to have the simple meaning *true* then it must come immediately after the noun without other adjectives except from types (iv) and (v). Compare: uvi kofa *a real house* and uvi rovaea kofa *very big house*, where its immediate constituent is rovaea *big*.

There is no formal grammatical comparison in Toaripi, or any other form of Eleman. However, a construction expressing comparison is sometimes heard, e.g. Moroi are karu lareva kofa, a- areve marehari lareva kao, *So-and-so is a person good truly, but his younger-brother good not*, i.e. *Moroi is a better person than his younger brother*.

The verb system. A comparative paradigm of the verb in Toaripi, Sepoe, Kaipi and Orokolo, will be found in Appendix A at the end of this chapter. Here we deal with the various verb forms in the order in which they appear in the paradigm.

The 'plain form' of the verb is used as the lexeme because with it as base the other forms can be built up. This plain form may not itself be a simple form, for many verbs are made up of various types of compounds. These are verb + verb, e.g. oviti *bring* (fr. ovai *get*, iti *come*); noun + verb, e.g. haisafai *forget* (fr. hai *liver*, but used also of mental operations and states, safai *finish off plait*); and adjective + verb, e.g. koko *narrow*, kokoeai *to contract*.

The plain form appear in questions when it is followed by the interrogative marker or preceded by the interrogative pronoun, e.g. a mapai ei? *do you hear/understand?*; leisa mapai? *who hears?*. It is found also in the answers that follow, e.g. a, ara mapai *yes, I hear*.

The plain form appears also in negations, present and past, when it is followed by the negative *kao*; e.g. *ara mapai kao*, *I do not hear*.

There are four variations in the endings to the plain form: (i) *-ai* e.g. *mapai hear*; (ii) *-i*, e.g. *pisosi make*; (iii) *-oi* e.g. *itoi stand up*; (iv) *-a*, e.g. *mea have being*. The great majority of verbs belong to (i). Of 600 verbs taken at random, which included derivative forms, 557 had the ending *-ai*, nineteen ended on *-i*, ten in *-oi*, and fourteen in *-a*. Between (ii) and (iii) there is little difference, apart from the changes involved in the converb form (see paradigm). The verbs in (iv), however, form a special class, seven in number. These 'stative' verbs are marked out by certain peculiarities of morphology, and by there being both singular and plural forms throughout. Since they all describe various states of being, they are all intransitive. From *pea be set, dwell*, the suffix for the present continuous for all verbs is derived. There is comparative evidence that suggests that the remote past *-pe* termination has a similar origin. In *Kaip*i and *Orokolo* *-vea* (*mea*) is used instead of *-pea* for the present continuous. In *Toaripi* we also find *vovea* (= *vo mea*) as one of the forms for the habitual. In having such a morphological function the stative verbs show some affinity to the auxiliary *loi* which is used to mark the future tense.

The auxiliary verbs do not normally appear on their own but require to be in association with some noun, adjective, verb, adverb or demonstrative. These auxiliary verbs are: *loi*, *auai*, and *sauai*. With *auai* may also be included *lauai eat* (fr. *l(a) food + auai*). There is one other auxiliary of minor importance: *puavai* implying 'totality'. The verb with which *puavai* is used assumes a modified form of the converb; tense, aspect, phase and mood are shown by the auxiliary, which as it always takes final position in a sentence, does not itself have a converb form, e.g. *ere tera puavōpe they went all-of-them*; *ava puavaia sit down all-of-you*.

The auxiliary *loi* forms the remote past *leipe*. This seeming irregularity is removed if it be recognised that whenever *loi* takes a suffix or adds a negative, the converb form is used instead of the plain form. Thus: *leipe*, *leipea*, *leivota*, *leiti*, *lei vovea*. It is used with a very large range of words, e.g. *tivi work*, *tivi loi do work*; *loki request*, *loki loi make a request*; *havou game*, *havou loi play a game*. As these examples demonstrate, with nouns the general meaning is *do*, *make* or *perform*. Sometimes *activate*, *set in motion* is the meaning; *maea loi set off* (*maea body*); *ma loi* (of tide) *go out* (*ma water, tide*).

With adjectives and adverbs its equivalent in English is some part of the verb *to be*; e.g. *mafu soft*, *mafu loi be soft*; *haekao near*, *haekao loi be near*.

The converb form *lei* is used in a causative sense before the auxiliary compounds with nouns, adjectives, or adverbs, and also before other verbs, e.g. *lei mafu loi make soft*, *lei haekao loi make near*, *lei mapai cause to hear*. In the form *roi* the auxiliary is used with the plain form to mark verbs for the future tense, e.g. *mapai roi will hear*. When appearing as a causative it can still mark for the future; *lei mapai roi will make to hear*. When used with compounds with *loi*, this *loi* changes to *leiti*, e.g. *tivi leiti roi will do work*.

When different verbs are combined in repeated action, or when repeated demonstratives appear in a coordinate construction, *loi* is used to unite the verbal phrase, e.g. *patai fauka loi ascend descend do*, i.e. *go up and down*. (See pp.318).

The form of *auai*, the second auxiliary, can be readily explained. It is *ai* with the verbal intensive *au* prefixed. When the *au* is removed the formation of the remote past with *-pe* conforms to the pattern for the *-ai* verbs, namely *ōpe*. We also find *aiepa*, present continuous, *ōvota*, frequentative recent past, and *ō vovea* habitual. Other forms stem from *arai*, a variant of *auai* in a very limited range of compounds. From this base are derived: *ari roi* future, *arita* recent past, *ari vei* infinitive, and *aritore* the second habitual.

The auxiliary *auai* is used largely with words implying sounds of various kinds. With *mō* it is used to introduce direct speech, *mō auai this say...* With *o word* we find *o auai, say, speak*. Similarly *fi cry*, *fi auai to cry*; *sasafare rustling*, *sasafare auai to rustle* (of leaves, or grass skirts); *ape aruru yawn*, *ape aruru auai to yawn*.

Other compounds with *auai* are reduplicated words with various meanings, e.g. *haikaeai think*, and *haikaeakaea auai think over, ponder*; *laukelauke auai sway from side to side*. A few words employ both *loi* and *auai* with somewhat different shades of meaning. Thus *heohea uproar, tumult*; *heohea loi is to be in a tumult*, *heohea auai make an uproar*.

The various forms of *sauai* are identical with *auai*, but with *s-* prefixed; this is the instrumental marker *sa*, with the vowel coalesced with the initial *a* of the auxiliary. The one variant form is *sasape*, a plural for *sape*, frequentative remote past. Apart from this no form is marked for number, but we find a parallel to *sasape* in *lalape*, from *lauai*. The range of meaning of compounds with *sauai* is somewhat

complicated, and it is not easy to itemise. With the name of the article being made, or of the material used, we find the meaning *plait*, e.g. *kite sauai plait mat*. With a *fire*, the meaning is *to burn*. To make this transitive another *sa* is added: *a sa sauai burn by fire*. In other compounds there is implied a pounding process, e.g. *poi sauai chop up sago pith*; *teavi sauai scourge, beat*. There is also *eroa sauai be hungry*, from *eroa hunger*. The forms *sa + auai* may account for *sauai*.

Number with verbs has already found mention on p. 313. As stated there, verbs in general, like nouns, are not marked for number. Where plural verbs are available, their use is determined by the plural condition seen in the state or action of the verb, not in a simple agreement with a plural subject. For examples see the previous reference. With intransitive verbs such as *itoi*, (pl.) *itoteai stand up*; *iavai* (pl.) *iroropai lie down*; *faukai* (pl.) *fafukai descend*, one would never get a plural verb with a singular subject. A singular verb with a plural subject is not impossible, if the action be performed at one time, but normally with intransitive verbs one finds agreement in number between subject and verb.

Verbs are marked for five tenses: the present, which has already been labelled the 'plain' form, two past tenses, the 'remote' and the 'recent', and two future, the 'immediate' and the 'indefinite'. These will be found in the paradigm at the end of this chapter.

The plain form is used with present meaning in questions and affirmations, but with negations in addition to the present it may also have past reference. Examples of its use have already been given (see pp. 326-7).

The recent past is used for events from yesterday up to about a fortnight ago. Beyond that is covered by the remote past. There is, however, no hard and fast division. What separates the recent from the remote is whether an event be fresh in the mind or not. The recent is sometimes used of events on the same day, if through a change of locality or circumstance those events are out of present context.

The formation of the indefinite future with *roi* has already been described. The immediate future, used only of events that are imminent, differs from the indefinite future by being formed from the infinitive instead of from the plain form, and by the presence of the verb form marker *la* before the *roi*, e.g. *terai vei la roi about to go*.

The same construction can be modified by altering the tense of *loi*. Thus with the present continuous *lei pea* the reference is to present

condition rather than an imminent event, e.g. *are terai vei la leipea* *he is-being about to go*, i.e. *he is all set to go*. By substituting *leipe* the remote past in the place of *roi*, the construction can be made to give a future reference in past time, e.g. *are terai vei leipe* *he was about to go*.

Verbs are marked for aspect to indicate the present continuous, the recent and the remote past frequentatives, and the habitual. As stated earlier the suffixes for aspect are taken from the stative verbs *pea* and *mea*. For the present continuous *-pea* is used, with the verb form marker *la* usually added. None of the stative verbs take the *-pea* suffix, except for *eaea* *to lie*, which with a coalescence with the verb form marker becomes *laepea*. This would seem to be patterned after *laipea* (*la+aipea*) present continuous of *auai*. The stative verbs have, however, the verb form marker *la* to identify them, e.g. *karu miri voa la roroa* *people beach on are*.

The form for the frequentative recent past *-vota* may be understood as a coalescence of *vo(me)i ta*, *vo* being the verbal conjunction used to link stative verbs (and verbs generally) to other verbs when the action of one is involved in the other. This *vo* is seen again in the formation of the first habitual, which is with *vovea* (= *vo+mea*), e.g. *mapai vovea* *listen always*.

Comparison with Orokelo enables us to analyse the formation of the frequentative remote past. This is by using *ia* (*ita*) *with* as an infix, e.g. *mapaipe* (fr. *mapa+ia+pe*) *used to listen, was in the habit of listening*. For this the Orokelo is *iapailape* (fr. *iapa+ila+pe*). The remote past frequentative refers to the same period of time as the simple remote past. Similarly the frequentative recent past may be equated in its time reference to the simple recent past.

In addition to the first habitual described above, there is a second habitual with suffix *-tore*. This would seem to have originated from a coalescence of the relative indefinite ending *-ta* + *ore* *knowledge, acquaintance with*. It has no difference in meaning from the first habitual, and there is no context that requires one form rather than the other. Both are used to describe customary events, e.g. *tera vovea*, or *teraitore* *always go*.

In the section on demonstratives mention is made of their use with verbs. The addition of the predicative *meha* *this* or *here*, marks for phase to show that the effect of the action continues, e.g. *e areve o mapaita meha* *you his word hearing this, you have now heard his word*.

The form of the verb here would seem to be the recent past, but it is likely that the relative indefinite, which is the same in form, has had some influence on the construction. With the stative verbs we find the present continuous with the demonstrative, e.g. the greeting, *A la me meha!* (me = mea) *you are this*, i.e. *here you are!* Other verbs also on occasion use a form of the present continuous that omits -pea, e.g. *are la koti meha he is coming this, here he comes!* In this construction the auxiliary loi has the form loita, which is a variant of the relative indefinite, or it uses the present continuous, e.g. *are kitou loita meha he anger has this, now he's angry.*

When the demonstrative reha *that* marks the verb, the effect is to transfer the action to the past. Here it may well be that the verb is the recent past rather than the relative indefinite. It is commonly used in narrative as a vivid way of describing past events, and is thus a parallel with the 'historic present' found in many languages that mark for tense. Thus to give one of the examples seen in Oa-Laea myth: *soka are isaita reha well, off he went (westwards).* Occasionally the remote past is used as the verb; to give another example from the myth: *mea opōpe Elailiri soeope reha time began* (i.e. at the crack of dawn) *Elailiri flew-off then.* This is not so vivid as *mea opōpe soa Elailiri soeaita reha.* For other constructions of demonstratives with verbs, see pp.317-8.

This same verb ending in -ta is used in a dubitative sense with varo, the possibility marker, in the final position in the place of reha, e.g. *are kotita varo he has come (or will come) perhaps.*

The use of the converb has already been described (p. 315). As stated there, it is an unmarked form used before another verb with which it accords for tense, aspect and mood. To form the converb most verbs ending in -ai change this to -i, *mapai, mapi hear*, a few have -ei instead of -i, e.g. *patai, patei, ascend*; with -eai the change is to -ea, e.g. *paraesai, paraea set free.* The verbs that end in -oi change to -ei, e.g. *itoi, itei, stand up.* Where the ending is -i or -a (the stative verbs), there is no change for the converb. With the auxiliaries, loi has lei while auai has a', ō, or ae.

When the action of one verb is involved in that of another, the converb is linked to the main verb by the verbal conjunction vo, e.g. *soea vo kotipe running came.* This verbal conjunction may be reduplicated to represent continued action, e.g. *ereuka ape sosori ō vovo kavōpe the two of them went (inland) quarrelling as they went.*

The infinitive is formed by the addition of the infinitive marker *vei* to the plain form in the verb classes (i) to (iii). The stative (class iv) verbs change the *-a* into *-i* before *vei*. With *loi* we find *leiti*, while *auai* and *sauai* become *ari* and *sari* before the *vei*. Thus: *mapai vei to hear*, *itoi vei to stand up*, *mei vei to be*, *leiti vei* and *ari vei*.

The infinitive is used alone to express purpose, e.g. *ara elore etau mere oraka miavai vei I am to plant a couple of things*. Usually, however, other verbs enter into the construction, e.g. *ere oru mere vipai vei kavope they banana suckers to plant went (inland)*. The verb *haikaeai wish, desire, want* takes the infinitive usually before it, e.g. *Marai mapai vei haikaeai kao Marai listen to wanted not*. We find a use of the infinitive with reported speech, e.g. *areve vita arero uvi etau foromai kiva leiti vei omoipe her husband her house things all care to take told*. The use of the infinitive in the formation of the immediate future and to denote a future reference in the past, has already been described (see pp.329-330). For yet another use of the infinitive as the emphatic imperative see below.

By 'imperative' is meant those forms of the verb that are used to command or urge a person to perform the action denoted by the verb. The same form as the non-emphatic is used to make requests of various kinds. There are two forms of the imperative, one of which ends in *-ia* or *-va* in the case of the stative verbs the other, an emphatic form, is identical with the infinitive. We find the latter used when the ordinary form has failed to evoke the desired action: *a terai vei! off you go!*.

Constructions with the relative verb have already been described at some length (see pp. 310, 315-6). Here we consider the various relative verb forms and their significance. A relative verb is distinguished by its position being immediately before a noun. One form - the indefinite relative - is unrestricted for tense or aspect. Other forms are marked for tense and aspect in respect of which the relative verb has a range comparable to that of the finite verb. In the case of the remote past forms, both simple and frequentative, together with the frequentative recent past, the forms are identical with those of the finite verb, and there is only the positional distinction between them. They have also the same significance in respect of tense and aspect.

The indefinite, since it is the unrestricted form, may be used in the place of any of the other forms, although there will not be the same precision in meaning. This is the form used when the relative is a simple modifier to the noun, e.g. *toaraita karu helping person, helper*. With other relative forms more expansive contexts are possible than is seen in this example. See the references given above for examples, and for the forms see the paradigms at the end of this chapter.

Negatives. The present and past are combined in one negative construction in which *kao*, the negative marker in the place of *vei*, follows the verb form as found with the infinitive, e.g. *mapai kao do (did) not hear*; similarly *pei kao*, *leiti kao*, and *ari kao*. For the future negative we find the indefinite future verb form preceded by *levi*, e.g. *levi mapai roi will not listen*.

For the present continuous or incomplete action the verb form is the same as that with the non-emphatic imperative, e.g. *mapaia kao not hearing or not yet heard*. For the prohibitive this same imperative form is used, but preceded by *levi* as the negative marker, e.g. *levi mapaia do not listen*.

With the relative verb *auke* is the negative marker. For the relative indefinite it follows the verb, which has the same form as is seen with the infinitive. It thus agrees with the present and past finite negative construction, except that the negative marker is *auke* instead of *kao*, e.g. *mapai auke*. In order to mark for tense or aspect it is necessary to follow this negative marker with an appropriate relative form of the auxiliary *loi*, e.g. relative negative remote past: *mapai auke leipe... not listened...*

Questions are marked by intonation, by an interrogative pronoun, or the marker *ei*, or by an interrogative. (See also the earlier sections on intonation). Here we deal with the form of the verb or verb phrase in a question.

Many questions have the non-verb type of construction, and consist of a noun, pronoun or a demonstrative with an interrogative, e.g. *ave haiiri lekori? your mind what?*. When a verb or a verb phrase does occur, the construction is the same as for a statement. Thus: *a leavoa terai roi? you where will go?* can be turned into a statement simply by making a suitable substitution for the interrogative, e.g. *a mōvoa terai roi you here will go*. Questions with the interrogative marker simply require this marker to be removed and an altered intonation in order to become statements. With negative sentences the construction is again identical

with parallel statements, apart from the interrogative marker, e.g. a terai kao ei? *you did not go?* For the future this is: a levi terai roi ei? *will you not go?*. Such negative questions require for an assent the affirmative answer a *yes*.

A real conditional construction has in the apodosis the indefinite future or imperative as may be required. To form the protasis there are two ways, depending upon the presence or absence of the conditional marker *oria*. There is no special context or semantic refinement that calls for one form rather than the other. It may be noted that with form (a) the verb may have either the plain form ending or the ending with *-ta*. With the latter ending there is elision of the final *-a* with the initial *o* of the conditional marker. Using *mapai hear*, we get the following model constructions:-

Form (a), with the conditional marker *oria*; form (b) without:

Positive: <i>if...listen</i>	Negative: <i>if...do/does not listen</i>
(a) mapait' oria, mapai oria..	mapai auke leitit'oria, leiti oria..
(b) mapaita, (a-,)	mapai auke leitita, (a-,)

With a relative verb in the protasis:-

<i>if...person who listens</i>	<i>if...person who does not listen</i>
(a) mapai karu leitit'oria, leiti oria...	mapai auke leitit'oria, leiti oria..
(b) mapai karu leitita, a-,	mapai auke karu leitita, a-,

Form (b) sometimes has the conjunctive *a-* ; this again makes no difference to the meaning.

When expressing unreal conditions the protasis has one or the other of the forms just described. The apodosis, however, has the infinitive verb with *lare*, the unreal conditional marker, in the place of *vei*; i.e. *mapai lare*, *pei lare*, *leiti lare*, *ari lare*. The negative is *levi* preceding the verb, i.e. *levi mapai lare*, etc. Examples of unreal conditions, both positive and negative, can be given from the *Oa-Laea* myth: *u haura oria, ereuka haipiri koti lare conch-shell straight if,*

they-two slowly come would have; i.e. had the conch-shell sound been prolonged... Lea irave kaekae ere Oa-Laea Seika ve harau taipu la felaukea fareovai auke leit'oria, areve papa arero levi arapai lare, *those boys small they Oa-Laea Junior's rattle bunch (obj.mkr.) undone take-away not had-done-if, his grandfather him not swallow would-have.*

There is a subordinate clause marker that occupies the final position in a manner similar to lare. This is ave, the caution marker *lest*. Like lare this takes the infinitive form of the verb, but with ave in the place of vei. Thus: a eapo leitia, mea opi sisapai, aite aro elave oa sa sukai ave, *you please be-off, early dawn appears, next you our father by meet lest.*

A few adverbs can be formed from adjectives by the use of the suffix -kao, e.g. lekakao *slowly* from lekaleka *slow*, haekao *near* from hōi *near*. The suffix -ri has a more extended use. We find it combining not only with adjectives, but also nouns and demonstratives. Thus: (from adjectives) haurori *uprightly*, from haura *straight*; also from hōi, hōiri *near*; (from nouns) mairi *by the hand* or *foreleg*, mai *hand*; (from demonstratives) mōri *like this*, lōri *like that*. A third way of forming adverbs, or rather adverb phrases, is by the use of ita *with*, a phrase resulting because ita is not treated as a suffix. Thus rofo ita *with strength, strongly*. Some words have, however, quite close coalescence; e.g. ara-ita *distance with, at a distance*.

A number of common adverbs do not have these derivational forms, e.g. lavelave *quickly*, utohoa *immediately*. An adverb may therefore be recognised more easily from its position rather than from its form. While on occasion some adverbs take up other positions in a sentence, the position immediately before the verb clearly has preference, whether the verb be finite, relative or converb, e.g. a aite itita soa *you next coming time i.e. when you come the next time..* Should the sentence include an object, the adverb may occasionally take the position before the object. The frequency with which this occurs may be judged from the following: of twenty-three sentences each with object and adverb taken from native texts at random, eighteen had the sequence object-adverb-verb, while five had the object between the adverb and verb.

The beginning of a sentence or clause is another position that an adverb may occupy occasionally, particularly with adverbs of time which take first position when there are two or more adverbs with a single verb. It is usual of an adverb of direction or place to come next, and last of all, so as to be nearest to the verb, an adverb of manner. A combination of three adverbs is, however, most unusual.

To intensify adverbs use is made of the same words that are so used with adjectives. These intensifiers are: *rovaea very*, *kofa truly* and *foromai altogether*; they take the position following the adverb. Thus: *ere ofae kuku karu la haekao kofa lariovi itlpe, they blind person (obj. mkr.) near very (truly) brought*. The adverbial phrase with *ita* e.g. *rofo foromai ita strength all with*. For the diminution of adverbs the same word is used as for adjectives, i.e. *taheka little*. Thus *tola taheka kikiaia timber a little move*.

The interrogatives may be grouped according to whether they are mainly adjectival in position, or mainly adverbial. The former, as we have seen, is either immediately after or before a noun; the latter immediately before a verb. They all have as base *le-* which is compounded in various ways. With the adjectivally positioned interrogatives we find *leafere how many/much?*; *lekoru what?* ; *lea'*, *lera*, or *lehara, which?*; and the interrogative pronoun *leisa who?*

The meaning of *koru* is a *piece* or *lump* of anything. As *lekoru* is compounded with a noun, we find it with a demonstrative, *mea lekoru? this what?* It can also take the object marker *la*, e.g. *are lekoru la leipea? he what (obj.mkr.) is-doing*. We find it with the instrumental marker as well; *arave lea mora lekoru sa sukai? my that foot what by pierces?* Usually by what is really the same process that added *koru* to the interrogative base, we find another noun added; *etau lekoru? thing what?*

The interrogative *lera* has as a variant *lea'* /le:a/, the lengthened *e* serving the same purpose as the added *-ra*, namely to regularise stress and prevent elision. The two forms have the same meaning, *which?* or *what sort of?*; e.g. *are lera (or lea') karu? he (is) what-sort-of person?* The third variation *lehara* is used in the same kind of question, but follows the noun instead of preceding it as *lera* or *lea'* do. In relative constructions where the verb occupies the position before the noun, we find *lehara*, e.g. *lea kotipeta karu lehara? that/those coming person/people what-sort of?*

As adverbially positioned interrogatives there are: *leavoa where?*, *lea'*, *leafeare*, *leati how?*, *leasauka when?*, *levea*, *levei*, *leve why?* The first-named is formed from *vao* the postposition *in*, *at*, *to* or *from*, for which see the next section. Of the next three forms, *leafeare* is from *lea'+feare*, the latter as a free form being an adjective *like*, *resembling*. The construction is similar to *mōfeare* and *lōfeare* where *feare* is joined

to the demonstratives. Although normally before a verb, it may appear finally when a suggestion is being made, *how about?* It is then preceded by the relative indefinite form of the verb, e.g. a... mea Orovu mori Harisu mori la laeaita leafeare? *you... this Orovu-Harisu girl (obj.mkr.) marrying how-about?* When used in its more usual position before the verb, there is a plural form heard in greetings. Thus: a leafeare(loi?) *how are you (sing.)?* e leafefeare aipepea? *you (plur.) how are-sitting?* i.e. *how are you?*

Of the other two forms, *lea'* always comes before the verb, often with the auxiliary *loi*, e.g. 'a *lea'* loi *you how do?* i.e. *what are you doing?, what are you up to?* While it has the same general meaning as *lea'*, *leati* may be regarded as a coalescence of *lea'* + *leiti*, and it has a future rather than a present reference, e.g. *ela leati roi?* *we how do shall? what shall we do?* This is a more general question than would be implied by using *leafeare*, which would indicate that some course of action is in mind, but the manner of doing it is in doubt.

The need to differentiate from the adverbial phrase *lea soa that time, when* (cf. *Orokolo lahoa when?*) is responsible for the form *leasauka*, the *leasauka*, the *-ka* being here the adverbial suffix. As with *leavoa* and other interrogatives, *leasauka* can enter into a modifying construction with a noun, which with *leasauka* is *soa* or *mea time*, or *sare day*, e.g. *a soa leasauka teraita?* *you time when went?*

With *levea*, *leve* or *levei why? for what?* the compound is with *vei*, the postposition *for*. The variant forms are the result of giving varying lengths to the end vowel, and outcome partly of position, and partly through having to distinguish the interrogative from the negative *levi*, which likewise has the position before the verb. In non-verb questions we find *levea*; a *ereukaro levea?* *you them-two for-what?* i.e. *what do you want with them-two?* With questions containing verbs, *leve* or *levei* precedes the verb, e.g. a *araro leve aitetai kotipea?* *you me why follow are-coming?* Here the shorter *leve* is the result of elision with the verb, as the following indicates: e *levei haitutu aipea?* *you why scared are?*

The interrogatives *levea* or *lekoru* form with *ipi base* or *origin* an interrogative phrase, *ipi levea*, or *ipi lekoru*. These have precisely the same meaning, and there is no context that calls for the one rather than the other. When used in the final position *ipi*, being a noun, requires before it an appropriate form of the relative verb, e.g. a *soeapeta ipi lekoru/levea?* *you are-running cause what?* i.e. *why are*

you running away? The same phrase may come also before the verb, which then has the finite form, e.g. *a fi ipi levea aipea? you cry cause what are-making?* The *ipi* could here be omitted, and the meaning would not be affected.

The postpositions are four in number: (i) *tai to, motion towards*, used in respect of persons or living creatures only; (ii) *in, at, also to or from* with reference to places; (iii) *ita with, in company with*; (iv) *vei for, on behalf of*. As is implied by their name, postpositions always follow the noun or pronoun. With the exception of *tai*, they enter into a variety of compounds with other classes of words.

As already noted (see p. 323), *tai* requires the object form of the pronoun before it, e.g. *arero tai him to, towards him*. When used with a noun, however, the object marker is not required. The second postposition *voa* is used instead of *tai* in respect of places, e.g. *are miri voa isai, he beach to is-gone*.

The third postposition *ita* has already found mention in a number of connections: (a) in non-verb sentence construction (p. 312); (b) as a plural suffix with nouns (p. 320); (c) with pronouns, dual and first person inclusive (p. 322); and with (d) adverbs (p. 335). Its importance morphologically is obscured in Toaripi by its having also the form *ia*, which tends to coalesce when used as an infix or suffix. If Orokolo, Sepoe and other comparative data be also considered, the extent of *ita*'s morphological ramifications can be better appreciated. We find it used with verbs to mark tense, aspect and mood. From the Orokolo forms it is possible to identify also the suffix *-ria* with numerical adjectives (see p. 325) as being *ila* or *ita*.

That the fourth postposition *vei* is really a primary compound can be seen from the Orokolo forms, *v'ila* or *ve i*. In origin *vei* is *ve+ita* or *ia*, the *ve* being the demonstrative *me*. We see the reason for the lengthened form *veia*, heard in pauses; it is then assuming its full form. It enters into phrases with pronouns and nouns, e.g. *ara vei for me, on my behalf*. These may come before or after the verb, e.g. *lea marisa Pipi vei fi ōpe, or fi ōpe Pipi vei, those girls Pipi for cried*.

To confirm our understanding of *vei* as being the demonstrative *me+ia*, there is another compound *laita*, which is *la+ita that/those with*, e.g. *lea heavita vei meru etau laita maravi teraia that man for gift things those-with get go*. The demonstrative *lea* enters into a phrase with *vei*, i.e. *lea vei on that account, because of that*. Subordinate clauses of reason introduced by *ipi cause, reason*, are concluded by *lea vei, or*,

what is really a variant of it, *eavia*. In such a construction the appropriate form of the relative verb is used before *eavia* or *lea vei*, e.g. *ipi ara eka leipeta eavia because I sick am on that account*.

With *voa* there are a number of postpositional phrases, such as *aite voa behind*, (of time) *later*; *arori voa on the top, over*; *haekao voa near*; *ipi voa at the bottom*; *iri voa inside*; *pisiri voa in the open, outside*. These phrases may have final position after the verb, but usually take the adverbial position before it, e.g. *Pipi Korovu-apo are arori voa aiseseiape Pipi Korovu he top on was-sitting*.

The class of words called here 'conjunctions' is made up of the following four words: *a-*, *but, however*; *aea and*; *ta also*; and the paragraph marker *soka so, well*. Other words such as *ita* are employed to link together words and clauses, but as they have other functions they are not included here. The four listed here are not exclusively conjunctions, but this is their main function.

After *a-*, there is a distinct pause; hence its representation in the graphological system, e.g. *are tivi ore, a-, are soa foromai eka lei vovea he work knowledge (has), but he time all sick is always*. For example of the use of *aea* and *ta*, see p.314.

The remaining conjunction *soka* is used also as an exclamation meaning *enough!*, *that'll do!*. It seems strange that such an exclamation should function also as a conjunction. It contrasts, however, with another mode for linking sentences. This is by means of the converb. If a sentence continues with the thought of the one preceding it, the finite verb with which the first sentence terminates is repeated in converb form to open the new sentence. Should it have a new turn of thought, then *soka* introduces the new sentence. This is well illustrated in the following taken from the Eare-Marai myth: *Eare patei Marai ve Lautā oroti evoe voa forea au avōpe. Avi... Eare went up Marai's Flame-tree canoe stern at boarded sat down. On sitting down... With this compare: Marai... karikara voa maea lei-pe. Soka Ma-iri karu arero taiape Marai... village towards set off. Well, Sea-depths people him were-waiting*. In this second sentence attention is turned to another subject and place. Hence *soka*, which in effect said *enough!* to what had preceded it.

8.16. Sepoe

This in Ray (1907) is called 'Lepu', a name that is quite unknown locally; I have therefore not continued with it. Pryce Jones (MSS.) at the time when Ray first used it, hazarded the opinion that it was a

misunderstanding of 'Levo', a name used for the Sepoe by their eastern Roro neighbours at Kivori and Waima. This 'Levo' is, of course, a variation of 'Elema', with the initial vowel omitted. All their Eleman neighbours to the west use the name 'Sepoe' when referring to the people of this sub-tribe; it seems the obvious name to use for the dialect also.

As the medium for literacy, Toaripi has influenced Sepoe considerably. All the Sepoe people can speak Toaripi. On several occasions when collecting dictionary material I have been given a form identical with the Toaripi, only to discover on further enquiry a separate Sepoe word. The people of Rove (near Cape Possession) however, are less influenced by the Toaripi speech.

Sepoe shows 87% vocabulary agreement with Toaripi, 79% with Kaipi, and 63% with Orocolo on the basis of the 112 words listed in Appendix H (pp.579-585).

8.16.1. Phonology

Both consonant and vowel phonemes in Sepoe have the same range as in Toaripi. There is therefore no need to repeat what has already been given under that heading. What is, however, distinctive about Sepoe phonology is the intonation pattern. In the pitch contour the high pitch of a Sepoe phrase is reached somewhat earlier than in other forms of Eleman speech. Thus: *Lea lariatau araro tai ovi ukoti arava hiake ero aviatai lei* /²lealàrietáú árarotái+ òviuk^{*}òit ²aràvahiake+ èroavíárai¹lei /. A further characteristic feature of the intonation pattern is that a Sepoe interrogative has a rising terminal: e.g. Toaripi: *ipi levea?* /²ìpìlevéa /; Sepoe: *ipi ievi?* /²ìpì³iévi /. A similar pattern is found with the imperative, and here again there is contrast with Toaripi e.g. Toaripi: *a uvi voa pataia* /²a:uvi+vòə pæ³táia¹ /; Sepoe: *a uvi voa patati* /²a:uvivòə+ pætáti³ /, *you house to ascend*.

There is some agreement, as against Toaripi, between Sepoe and Orocolo. The sound change rule two, in which preceding a final syllable the /t/ in Toaripi becomes /l/ (or r) applies to Sepoe as well as Orocolo: e.g. Toaripi: *afutae*, Sepoe: *afulae* *ashes*; Toaripi: *heavita*, Sepoe: *heavila* *man*; Toaripi: *saruta*, Sepoe: *sarula* *lice*. It does not invariably occur. Thus Toaripi: *faita* *night*, should be **faira*; instead we find agreement with Toaripi. Possibly we have here a borrowing from Toaripi.

8.16.2. Grammar

The subject marker *va*. Agreement between Sepoe and Orocolo, together with the related dialects of the latter, is to be seen also in the subject marker *va*. This is found in these forms of Eleman only, and thus contrasts with the object marker *la* which is present throughout. For the derivation of the subject and object markers, see p. 318 (a). In Sepoe, however, the use of the subject marker is much more restricted than in Orocolo, for it appears only with certain pronouns as a tied form, *arava*, *ava*, etc., and never with nouns.

Pronouns. The subject personal pronouns in Sepoe are given in Table 9, with the emphatic forms, used when the pronouns are alone, given in brackets:

Table 9

	First Person	Second Person	Third Person
Sing.	<i>arava</i> (<i>arao</i>)	<i>ava</i> (<i>ao</i>)	<i>areva</i> (<i>areo</i>)
Dual.	<i>elaka</i> -	<i>euka</i> -	<i>ereuka</i> -
Plur.	(exclus.) <i>elava</i> (<i>elao</i>) (inclus.) <i>hia</i> (<i>hiao</i>)	<i>eva</i> (<i>eo</i>)	<i>ereva</i> (<i>ereo</i>)

Personal Pronouns

A comparison shows that with one exception the forms are identical with Toaripi if the subject marker be removed. Again with that one exception, the emphatic forms agree with Toaripi. The exception is the inclusive first person plural, *hia* (*hiao*). This in Toaripi is *ereita*, made up, as the Orocolo form *elaviila* indicates, of *ela+ita*, *we with*. The Sepoe: *hia* is simply the latter part of this compound in its shortened form *ia*, and aspirated to identify it. Not infrequently one hears this aspirate omitted, particularly with the emphatic form.

The object forms of the pronouns are formed by adding to the stems the object marker in the form of *-ro*, i.e. *araro*, *aro*, *arero*, *elakaro*, *hiaro*, etc. In a similar manner, in this case identical with both Toaripi and Orocolo the genitive is formed by adding to the stems the genitive marker *-ve*; *arave*, *ave areve*, *elakave*, *hiave*, etc.

Demonstratives and Adjectives. In form and in their functioning with noun and with verbs to mark phase, modify tense, and with coordinate constructions, as well as in their use as adverbs, demonstratives in Sepoe agree with the demonstratives as found in Toaripi.

Similarly with adjectives, although they may differ in form, in the position a given adjective may occupy, and whether it is marked for number, there is a close parallel with Toaripi, e.g. Toaripi: karu rovaea, Sepoe: karu oaharo *big person*; Toaripi: karu metameta, Sepoe: karu oaharofafa *big persons*.

Verbs. The verb system in Sepoe shows a close parallel with that found in Toaripi as regards number, tense, aspect and mood, although there is variation in form. Some affinity with Orokolo is revealed by these variations. For examples, see below and the comparative paradigms at the end of this chapter.

A comparison of the stative verbs as found in Toaripi with those found in Sepoe reveals several differences. Instead of them being seven, there are but six, for Toaripi: moea which in that language somewhat strangely combines the two meanings of *be inside* (a container) and *to float*, is shown to be a derivative form from vo+eaea *in lie*. Another stative verb, vea or mea with plural roa, although present in Sepoe is never used as a finite verb, but only to mark for aspect. Thus Toaripi: a leavoa meita? *where have you been?* becomes in Sepoe: ava iote kaeaivila? with kaeai *move around* as the verb base and vila (= meita) as the suffix.

The present continuous has -pea as in Toaripi, e.g. Toaripi: la leipea = Sepoe: la leitapea; cf. Orokolo sing. leive, plur. leiro. For the frequentative remote past Sepoe uses vea, and as a result this form has a plural with roa, e.g. Sepoe: ovapaivilipe (sing.), ovapairoōpe (plur.); cf. Toaripi: mapaiape *used to listen*. In this Sepoe shows agreement with Orokolo. The frequent recent past, which using the auxiliary as an example, is Toaripi: leivota, Sepoe: leivovila, Orokolo: leivila (sing.) leilula (plur.), shows an approximation in form between Orokolo and Sepoe, but leivovila being unmarked for number, the agreement in this respect is with Toaripi. See the comparative paradigms for further examples.

The two auxiliaries found in Toaripi, loi and auai, occur also in Sepoe. Instead of the form Toaripi: auai we find Sepoe: opua, and for sauai Sepoe: sopua. In this Sepoe form the verb stem is o, which appears elsewhere as ō or a, e.g. the habitual ō vovela; the frequent recent

past has *ovovila* (= *o+vo+vila*). The addition of *-pua* presumably from the auxiliary of totality, is to ensure the identity of the form. For the same reason Toaripi prefixes *au-* to the stem *ai*. Although both auxiliaries are present, there is some variation in their use. Thus Toaripi: *eroa sauai* *be hungry*, becomes in Sepoe: *utihoa loi*, although *eroa* is also heard on occasion in Sepoe speech, in which case it has *sopua* as the auxiliary. Yet another word *itoro* *proclamation*, identical in both Toaripi and Sepoe, has *auai* in Toaripi, but in Sepoe it is *itoro loi*. The auxiliary of totality Toaripi: *puavai*, when used as such, has the form *puai*. The imperative for this, used in farewells, i.e. Toaripi: *ava puavaia*, Sepoe: *avi puai*, does not conform with the usual Sepoe imperative which terminates in *-ti* (see paradigm).

Apart from the frequentative remote past, number with verbs has none of the complications found in Orokololo, the pattern here being in general agreement with Toaripi and Kaipi. Such verbs as have plural forms are fewer in Sepoe than they are in Toaripi or Kaipi, e.g. sing. Toaripi: *iavai*, Kaipi: *uia*; plur. Toaripi: *iroropai*, Kaipi: *uovai*; Sepoe: *iavai* (sing. and plur.) *lie down*. On occasion when it is necessary to have a plural form, the auxiliary of totality *puai* is used, and it appears somewhat more freely than in Toaripi, e.g. sing. (Toaripi and Sepoe) *faukai*; plur. Toaripi: *fafukai*, Sepoe: *faukapuai* *descend*.

The relative verb has in Sepoe the same position and function as in other forms of Eleman speech. By the operation of the sound change rule mentioned above, the ending of the indefinite and habitual relative becomes *-ila* instead of the Toaripi: *-ita*, e.g. Toaripi: *mapaita karu*, Sepoe: *ovapaila karu* *listening man, hearer*. This does not, however, bring the Sepoe form in line with Orokololo, *-ki* being the relative indefinite ending in that language; thus: *iapaki haela hearer*. Similarly the relative present continuous ending *-pela* has a closer connection with Toaripi: *-peta* than with the Orokololo: *-vila*, the reason for this being that Orokololo, like Kaipi, employs *-vea* to form the relative present continuous, instead of *-pea* as found in Toaripi and Sepoe.

In the manner of making negative a verb phrase Sepoe reveals a closer conformity to Toaripi than to Orokololo, although the Sepoe negative marker is practically identical with the Orokololo: *aue*, e.g. the relative indefinite negative Toaripi: *mapai auke leita karu*, Sepoe: *ovapai ue loila karu*, cf. Orokololo: *iapaki aue haela* *person who does not listen*. Agreement with Toaripi is also shown in the finite past and present negative being combined in a single form, e.g. Toaripi: *leiti kao*,

Sepoe: *leiti kau*. This contrasts with Orocolo which combines the present and future with *lei va ka*. For the future negatives Sepoe has *ievi* in the place of Toaripi: *levi*. Thus Toaripi: *are havou levi leiti roi*, Sepoe: *are tola ievi leiti lei*, *he will not play games*.

The Sepoe negative present continuous has the unusual suffix *-ili*, e.g. *areva au ukotili ue* *he has not come yet*. For this the Toaripi is: *are kotia kao*. Despite their differences, Sepoe: *-ili* and Toaripi: *-ia* share a like origin from *-ila* or *-ita*, the final vowel of the former being changed to *-i* apparently as a result of the influence of the vowel in the preceding syllable, while Toaripi: *ia* is the shortened form of *ita*.

The negative marker *kau*, or more emphatically *kakou* (= Toaripi: *kasirau*), is used to express the absence of a quality or thing, e.g. *arava lea la voa patati ore kakou* *I that coconut ascend ability none*, i.e. *I cannot climb that coconut*. Here, as in Toaripi: *ore* is a noun *ability*, *knowledge*, and *patati* relative future.

The Sepoe conditional forms need not detain us long, for they agree fairly closely with the Toaripi, except that the negatives are *ue* and *ievi* in the place of Toaripi: *auke* and *levi*. Thus for an example of a real conditional construction, *eva arave o ovapati uorei, te arero omoiti*, *you my word hear if, go him tell*. For an unreal conditional: *eva uavila metahua uorei, eva arave o ovapailatila*, *you people good if, you my word would-have-listened-to*.

Adverbs. Although there are other possible positions for adverbs, the preferred position is immediately before the verb. In this Sepoe conforms to the general Eleman pattern. This applies to the relative as well as the finite forms of the verb, e.g. *euka foulo teraipela ipi ieve?* *you-two now going reason what-for?* = *why are you two going now?*. In this example as in Toaripi, *ipi reason* is a noun, and it has before it the relative verb as modifier.

Interrogatives. In the Toaripi section interrogatives are divided into two groups: (a) those mainly adjectival in position and (b) those whose position is mainly adverbial. The same grouping and their Toaripi equivalents is given in Table 10.

Table 10

Mainly Adjectival			Mainly Adverbial		
English	Sepoe	Toaripi	English	Sepoe	Toaripi
<i>how many?</i>	iofere	leafere	<i>where?</i>	iote, iotei, iotao	leavoa
<i>much</i>					
<i>what?</i>	larievu	lekoru	<i>how?</i>	iofeare, iota	lea', leafeare leati
<i>who?</i>	aia	leisa	<i>when?</i>	leasauka	leasauka
			<i>why?</i>	(ipi) ievi	(ipi) levea

Ray (1907), whose informant in this respect was Holmes, gives somewhat different forms. These are in some cases older words recorded before Sepoe had been influenced by Toaripi, e.g. iosauka for leasauka. When allowance is made for this influence it is clear that Sepoe: io or ie was the original interrogative base, equivalent to Toaripi: le. The only other form of Eleman speech to show resemblance to Sepoe in this respect is Keuru with hoila for aia *who?*; Namau has oiana *how?* The fere in iofere would seem to be in imitation of Toaripi Ray gives ioroioro, where the -ro is possibly the demonstrative lo *that*. In iotao or iote, the tao or tei may be understood as the postposition tai, used here instead of voa.

Postpositions. The four simple postpositions found in Toaripi i.e. tai, voa, ita and vei, appear in Sepoe with unchanged form except for ita, which becomes ila, as in Orokolo. In their position and function they show no difference from Toaripi. There is, however, one small variance with voa. This has, as in Toaripi the meaning of *at* or *in*, and like Toaripi is used with verbs of motion, when it means *towards*, *to*. When the meaning is *into*, Sepoe adds iri, *in*, thus using a postpositional phrase in place of the simple form, e.g. Sepoe: hia fareholia kasu iri voa ukavai lei, Toaripi: ereita farehoria oru oti voa kavai roi, *we together garden (place) (in) to go shall*. With this cf. Sepoe: elaka miri voa ievi itai lei; Toaripi: elaka miri voa levi isai roi, *we beach to not go shall*. Like Toaripi, Sepoe employs tai *to* when speaking of persons, but voa when a place is named. Thus in contrast to the example

just given: Sepoe: arava arave lou tai te, areva larietau araro aviarai lei; this in Toaripi is ara arave lou tai te, are larietau araro miarai roi, *I'll go to my mother, she will give me food.*

Sepoe postpositional compound and phrases agree closely with Toaripi. A compound with tai has already found mention under interrogatives, *iotei where?*, and in this there is one variation from Toaripi which has tai in simple form only.

8.17. Orokolo

Ray (1905) uses the name Elema. This, as has been mentioned earlier is a name of more general reference. Williams (1940) uses the name Orokolo, and this is the name in local use for the people and language here described. Apart from Ray's brief notes and the vocabularies to which he makes reference, nothing has been published about the language. As Ray pointed out, structurally the language shows close agreement with Toaripi. For the sake of brevity we shall follow closely the order of the Toaripi section, and our main concern will be to draw attention to ways in which Orokolo differs from Toaripi.

Orokolo shows 61% vocabulary agreement with Toaripi and 63% with Sepoe on the basis of the 112 words listed in Appendix H.

8.17.1. Phonology

The six vowel phonemes are /i, e, a, o, ɔ, u/. Although present in the language /ɔ/ has been ignored in the graphological system, except for a few words where it is represented by ā, e.g. āra /ɔrə/, (i) *shout* (ii) *fence*; cf. ara /arə/ *sore*. Apart from /ɔ/ being less prominent in Orokolo than it is in Toaripi, the vowel phonemes show close agreement. Diphthongs and vowel clusters are as described for Toaripi.

If introduced words be set aside, together with the allophones of /m/ and of /l/, there are in Orokolo six consonant phonemes: /h, k, l, m, p, t/. It is with the consonants that we find the major differences between Orokolo and Toaripi phonemic systems. These differences have considerable regularity, and it is possible to formulate rules for second change to cover a wide range of vocabulary.

The three voiceless stops /p/, /t/ and /k/ are as in Toaripi. There is, however, considerable variation in the use of /t/ in Orokolo as compared with Toaripi. Leaving aside introduced words such as *tehorō hair oil*, /t/ is found only with /i/ and /a/ or its allophones, whereas

in Toaripi /t/ is associated with any vowel. The result of this limitation is shown in the following percentages. Taking a modified Swadesh list as the basis, and reckoning the total number of consonant phonemes used as 100%, we get for /t/ 1.05% in Orokolo as against 10.8% in Toaripi.

Sound Change Rule 1: Cognate words with an initial /t/ in Toaripi, or with a /t/ preceded only by a vowel, are replaced by /k/ in Orokolo.

Table 11

English	Toaripi	Orokolo	English	Toaripi	Orokolo
<i>bone</i>	uti	uki	<i>senior</i>	toare	koare
<i>fishscale</i>	tete	keke	<i>leaves</i>	tolatola	korokoro
<i>again</i>	aeata	aeka	<i>theft</i>	torea	korea
<i>tooth</i>	tao	kao	<i>thundering</i>	tutururu	kukururu

Examples of Rule 1

Sound Change Rule 2: Preceding a final syllable the /t/ in Toaripi becomes /l/ (or r) in Orokolo. The Sepoe forms suggest that here it is Toaripi which has made the change from the original Eleman phoneme.

Table 12

English	Toaripi	Orokolo	Sepoe
<i>son</i>	atute	akore	atule
<i>after</i>	aite	aire	aila
<i>Flame tree</i>	lauta	laura	laura
<i>pig</i>	ita	ila	ila
<i>hole</i>	uta	ura	ura

Examples of Rule 2

An exception to the above rule is seen in Toaripi: *itoro*, Orokolo: *iroro* *proclamation*, but for this Sepoe has *itoro*, agreeing with Toaripi.

The two languages share a difficulty in the representation of the one voiced fricative, articulated bilabially, which is commonly nasalised when in an initial position, but not elsewhere. Because of this the phoneme has in both Toaripi and Orokolo two allographs, *m* and *v*. Occasionally it has been interpreted in Orokolo as a voiced bilabial stop, and a further allograph *b* has been used for a few words; e.g. *burava* for *mulava* *bite* in the translation of Genesis 3.15.

It is with the voiceless fricatives that there is the greatest deviation between the phonemic systems of the two languages, in that /f/ and /s/, present in Toaripi are absent in Orokolo. Cognate words in Orokolo have instead the oral fricative /h/. This results in the Orokolo vocabulary being heavily overweighted with this phoneme as compared with Toaripi. By working on the same basis as we did with /t/, we get for the oral fricative 21.37 in Orokolo as compared with 5.2% in Toaripi. It may be mentioned at this point that other consonant phonemes show close agreement in their frequency, i.e. /p/, /l/, and /m/, for which the percentages respectively are in Orokolo, 5.29, 33.82, and 19.45, compared with Toaripi, 5.4, 32, and 19.45.

It is possible at this point to formulate two more sound change rules:

Sound Change Rule 3: The phonemes /f/ and /s/ in Toaripi become /h/ in Orokolo, except for /s/ as described in Rule 4. There are numerous examples:

Table 13

English	Toaripi	Orokolo	English	Toaripi	Orokolo
<i>cry</i>	<i>fi</i>	<i>hi</i>	<i>sour</i>	<i>sisia</i>	<i>hihia</i>
<i>portion</i>	<i>firu</i>	<i>hiru</i>	<i>mildew</i>	<i>siri</i>	<i>hiri</i>
<i>unbind</i>	<i>felaukeai</i>	<i>helauka</i>	<i>sugar cane</i>	<i>ase</i>	<i>ahe</i>
<i>betel-nut</i>	<i>fere</i>	<i>here</i>	<i>thin</i>	<i>seseroro</i>	<i>heheroro</i>
<i>open</i>	<i>fapai</i>	<i>hapa</i>	<i>sun, day</i>	<i>sare</i>	<i>hare</i>
<i>story</i>	<i>fari</i>	<i>hari</i>	<i>sorcery</i>	<i>sarea</i>	<i>harea</i>
<i>appear</i>	<i>forerai</i>	<i>horera</i>	<i>knife</i>	<i>soi</i>	<i>hoi</i>
<i>breathe</i>	<i>fofoai</i>	<i>hohoa</i>	<i>time</i>	<i>soa</i>	<i>hoa</i>
<i>pus</i>	<i>furi</i>	<i>huri</i>	<i>pigeon</i>	<i>sua</i>	<i>hua</i>
<i>ashes</i>	<i>afutae</i>	<i>ahurae</i>	<i>plank</i>	<i>susu</i>	<i>huhu</i>

Examples of Rule 3

Sound Change Rule 4: Where in Toaripi /s/ is preceded by a stressed /i/, /ai/ or /ae/ and followed by /ə/, it is replaced by /t/ in Orokolo. At this point there is close agreement between Sepoe and Orokolo.

Table 14

English	Toaripi	Orokolo	Sepoe
<i>arrow</i>	farisa	harita	farita
<i>girls</i>	marisa	marita	moritera
<i>paddle</i>	taisa	kaita	taita
<i>dish</i>	saesa	haita	saita

Examples of Rule 4

The nasal /m/ has been shown to be a sub-member with /v/ of one phoneme. The other nasal /n/ can also be classed with /l/ and /r/ as a sub-member of another phoneme. There is at this point a slight difference between Toaripi and Orokolo. In the former language all the words represented by the grapheme *n* are all loan-words from Motu or English (see pp.306-7). In Orokolo, Motu: *nao foreign* has assumed the form *laho foreign*. Other introduced words that use the grapheme *n*, i.e. *nanikosi goat*, generally have the *n* nasalised. There are also in Orokolo a few words of 'native' origin in which the *n* is generally nasalised; e.g. *naoae without due consideration, at random*, used both adverbially (= Toaripi: *auraka*) and to modify nouns (= Toaripi: *merava*). Although Orokolo /n/ may be regarded as an allophone of /l/, it does seem to have a more assured place in the Orokolo phonemic system than it does in Toaripi.

Although there are many words with /p/ that appear without change in both Toaripi and Orokolo, there is a small group of words in Toaripi with unstressed initial syllable with /p/ that has in Orokolo /m/ or /h/ instead. These words being few, there is hardly need to formulate a rule, but it may be noted that if the vowel be /ə/ the /p/ becomes /m/. With /i/ or /o/ we find /h/. No instances occur with /e/. Of the two instances with /u/, Orokolo has one /mu-/ and one /hi-/. The Sepoe equivalents *mulovi bite* and *miloi fall*, as well as Kaipi: *mucovai* and *micoi*, support /mu-/. (Kaipi *c* = [tʃ]).

Table 15

English	Toaripi	Orokolo	English	Toaripi	Orokolo
<i>naked</i>	paseare	maheare	<i>outside</i>	pisiri	hihi
<i>heavy</i>	pasou	mehau	<i>midnight</i>	apisi	ahihi
<i>stingray</i>	pasuka	mahuka	<i>famine</i>	posera	hohera
<i>bite</i>	putavai	mulava	<i>fall</i>	putoi	hilo i
			<i>waterpot</i>	posu	hahu

Additional Sound Changes

Other types of change concern isolated words only, some of which also show phonemic change of one or another of the types already described. Thus Toaripi: tupe becomes kue in Orokolo *source*, and Toaripi: koru assume the form kou *star*. As examples of prosthesis we find Toaripi: sia, Orokolo: ahita *sneeze*, and Toaripi: vuopai, Orokolo: aivaopa *put inside* (box, etc.). There are a few instances of metathesis: e.g. Toaripi: ōsa, Orokolo: aho *side of face*; Toaripi: oti, Orokolo: ita *place*, and Toaripi: pailalaeai, Orokolo: lalaeapa *shake out or off*.

In stress, juncture, and intonation Orokolo is in agreement with Toaripi.

8.17.2. Grammar

In syntactic constructions Orokolo and Toaripi have a common pattern. Similarly in sentence structure, what has been written about Toaripi applies also to Orokolo (see pp.309-312). In any of the examples given throughout those pages, if the required vocabulary change be made, the sentence will generally assume the Orokolo pattern. Thus: uvi ma, *this (is a) house*; la haela va aheke iele havahu *that person* (subject marker) *strong truly indeed*. For the subject marker va, see below under demonstratives. Some of the examples require very little in the way of vocabulary change; ara la haela haveva ore *I that person ignorant know*.

With sentences with verbs the order is S O V, although occasionally for emphasis this may become O S V; e.g. arero ara le harilai *him I then kill-shall*. With an indirect object (R), the order is S O R V, as in Toaripi. Interrogative sentences have the order O S V, or O R S V, if

there be an indirect object; *ma oharo aro leita laila? this word to-you who said?*. All this is in agreement with Toaripi. It will perhaps suffice if this section be concluded with the Orokololo for the final example given in Toaripi on p. 316. *Ereari aloa ve eavape hoa Pipi Korovu va akea ve titaveape, they-two upwards looked time Pipi Korovu* (subject marker) *top on was-settled*.

Demonstratives. The initial consonants for the demonstratives are m/v- and l/r-, as in Toaripi. There are, however, variations in the vowels used with these consonants.

(1) with the vowel -a, with nouns or nominally.

(a) as determiners before nouns; *ma this/these, la that/those* e.g. *ma eharu this/these thing(s)*.

(b) as nominals in subject position, e.g. *ma va arave this* (subject marker) *mine*; *la va areve that* (subject marker) *his*.

(c) as nominals in predicative position: *mae*, occasionally *ma*; *lae* occasionally *la*; e.g. *are mae he this/here*, i.e. *he is here*.

(2) again with the vowel -a; for adverbial functions.

(a) with the adverbial suffix -ri; *mari this like, lari that like*. This *mari* is used to introduce direct speech; e.g. *are mari ape... he this-like said..* Both *mari* and *lari* are used with the auxiliary *lai*, *mari lai*, *lari lai*, *like-this do, like-that do*, e.g. *are mai lari lei pe la hoa... he way like-that acted that time..* They may be used also with verbs generally.

(b) with the postposition *ve* (= Toaripi: *voa*); *mave here, lave there*; or more usually with *ita place*, abbreviated to *ia*. Thus *maia this place, laia that place*.

(c) A repeated *...la ...la* is used with *vea state of being*, to form a verb-demonstrative phrase, e.g. *aula-kela vea*, from *au go* and (e) *ke come*, hence, *move to-and-fro*.

(3) with -e to modify tense, or with demonstrative force. There is a limited use with the present tense, usually in greetings, e.g. *a ka ve hela vea ve you also here (ve) may-we-say (hela) are here*.

With the remote past (= Toaripi: *reha*), but in Orokololo the *le* precedes the verb. Its meaning is *thereupon, then*; e.g. *kahara oa le hoaupe well, father thereupon went-down*. The demonstrative *le* is not used with the recent past as in Toaripi. Instead we find a frequent use with the continuous forms ending in -ve (sing.) and -ro (plur.). The addition of *le* results in the verb having a past instead of a present reference.

To give an example from the Pipi Korovu myth: *are va hai le paraeaive he* (subject marker) *pepper-catkins then was-let-falling*. Without the *le*, or with *me* instead of *le*, the meaning would be *is-let-falling*.

This *le* may also appear with the future form of the verb. It implies that the action of the verb it introduces will follow immediately, and thus = *thereupon*. It can also be used to give a past setting to a future verb form. Thus, from the same myth as before: *ahoa la kiapakila la hoa ve mea lalou le orakilai, sea was-calm that time at cumulus clouds thereupon would form*.

(4) with *-a* as function words.

(a) with nouns, noun phrases and pronouns, *ma* in the form *va* is used as the subject marker. Similarly the demonstrative *la*, or with pronouns *-ro*, is the object marker.

(b) with verbs: *la* distinguishes the following forms of the verb; for our example we use *iapa hear*: the immediate future *la iapakilai about to hear*, the simple recent past, *la iapaila heard*, the frequentative remote past, *la iapailape used to hear*, and the relative frequentative recent past *la iapakila was hearing...*

(c) In the final position following the verb, *la* is the possibility marker *perhaps*. In Toaripi this is *varo*, but whereas *varo* is used only with the relative indefinite, the Orokolo: *la* may be used with the present continuous, with the habitual, and with the relative present continuous, e.g. *are haropavila ita mae la he was-seeking place here perhaps*.

Nouns. Compound nouns in Orokolo follow the same pattern as that in Toaripi, i.e. noun + adjective, or more commonly noun + noun, e.g. *horova eharu work thing, tool*, *uvi haela member of household*. In such compounds the second is the more important component, so that if the positions be reversed, as is sometimes possible, the meaning becomes changed accordingly, e.g. *uvi horova budling work* and *horova uvi work building, workshop*.

Although some different terms are used, *mea* for *male*, *abu* for immature female, *lou* for full-grown female, gender in Orokolo follows a similar pattern to that found in Toaripi (see p. 319). Similarly with number; there are a few words that have reduplicated forms to denote plurality. Such words are: *vila-ipi, vila-ipipi clan(s)*; *hoa, hoahoa occasion(s)*; *hiru, hiruhiru piece(s)*; *ukai, ukaiukai side(s)*; *eharu, eharuharu thing(s)*. Such words have plural forms also in Toaripi. A few

others with plural forms in Orokelo but not in Toaripi are: hauka, hahauka *bundle(s)*, ikihero, ikihero *favor(s)*, oharo, oharoharo *word(s)*. Two other words may perhaps be regarded as coming within the special class of terms of relationship mentioned below: ave, avita *dog(s)* and ila, ilaita *pig(s)*.

Although nouns in general are unmarked for number, there is, as in Toaripi, a special class of nouns that have plural forms throughout. These are terms of relationship, and they form the plural by adding -ula, -hula, -ita, or -ila. Thus: vilari vilari-ula *ancestor(s)*; evera, everahula *son(s)* or *daughter(s) in-law*; arivu, arivuhula *sister's son(s)*; mari, marita *daughter(s)*; uva, uavila *wife, wives*.

The subject, object and genitive markers. With the exception of the subject marker which is lacking in Toaripi, these markers are identical in form and function in Orokelo as in Toaripi. We shall turn our attention to the subject marker. In its mode of use this subject marker parallels that of the object marker. With pronouns it is much in evidence, although it is not invariably used, as in Sepoe. With nouns and noun phrases it is used only when it is necessary clearly to indicate the subject. Its use had already been demonstrated in various examples given under other headings, e.g. pp. 350-1 and 352. A further example may perhaps be given to demonstrate how it can mark a word group as subject. Thus ara e ia hareho aeavila hare va leavila ha? *I you with together being days (subject marker) how many eh?*

Although sa the instrumental marker is not found in Orokelo as a free form, traces of its presence can be seen there. In Toaripi: sa coalesces with auai to form sauai (see pp.328-9). Other Toaripi verbs also show signs of a similar coalescence, e.g. saroroapai *destroy*, from sa + roroapai. By sound change rule 3 (see p. 348) sa becomes ha. We find the counterpart of sauai in Orokelo: hara, which is ha+ara. Other Orokelo verbs have evidently coalesced with ha-, e.g. hakurepa *leave, quit*; hakilea *stir up, incite*, from kilea *instruct*, and hamurea *separate, portion out*, from murea *count*. The result of this prefixing of ha- is that the verbs themselves are considered to include in their meaning *with* or *by*, e.g. haroroa *to rub with*, from roroa *rub*; thus pikuru haroroa *rub with mud*. That this ha- is in origin the instrumental marker is demonstrated by the form of the simple recent past of this verb. With the verb form marker la requiring the position immediately before the verb, the form becomes halaroraila (= ha+la+roroaila).

Table 16

	First Person	Second Person	Third Person
Singular	ara	a	are
Dual	elalila	earila, eari, ari	erearila, ereari, ari
with subj. marker	elavaiila	evarila, evari	erevarila, erevari
Plural (exclus.)	ela	e	ere
(inclus.)	elaviila		

Pronoun Forms

A Comparison with the Toaripi pronouns given on p.321 with Table 16 will show that all the singular and plural forms, with the exception of the inclusive first person plural, are identical in the two languages. With the dual forms, however, there is extraordinary diversity, the second and third person each having no less than five variants, all of which may be found in the Pipi Korovu myth. These variants are best understood by dealing with their formation step by step. It should first be noted that, as in Toaripi, the plural forms are the bases for the dual. For the next step there is ari, which like Toaripi: *auka couple*, can be used to substitute for the second and third person dual. Thus: ari eapai la lei avikiaraila *you-two food (object marker) make give-to (me)*, and ari hahu la kairi le aupe, *they-two water-pot (object marker) took then went*.

Like *auka*, ari may not be used to substitute for the first person dual. To distinguish the second from the third person, the appropriate plural form is joined to ari, thus forming eari and ereari. Up to this point Orokolo and Toaripi have been in agreement. But Orokolo goes further by the addition of the subject marker, and thus makes a further set of variants; i.e. evari, and erevari. As a final step Orokolo adds -ila (= Toaripi: ita). This is added also to the first person plural ela, plus -l- possibly to prevent elision. Thus we have elalila, and with the subject marker elavaiila for the first person dual. The second and third person gain two further variants each by suffixing -ila to the forms with and without the subject marker, i.e. earila, evarila, and erearila, erevarila. The form that lacks the va is taken as the base on

which to add the object or the genitive marker.

For the object or genitive forms of the pronouns the object marker *la* or *-ro*, the genitive marker *ve* is used. This is as in Toaripi, and here again we get forms identical in both languages for the singular and plural, except for the inclusive first person plural, i.e. *elaviilara* and *elaviila-ve*. There is however considerable variation with the dual which becomes: (first person) *elalilara*, *elalilave*; (second person) *earilara*, *earilave*; (third person) *erearilara*, *erearilave*.

The object form of the pronoun is used, as in Toaripi, before the postposition *kai* (= Toaripi: *tai*) *to*, *motion towards*; e.g. *arero kai to him*. With a noun in this same position the object marker is never added, however, In this there is also agreement with Toaripi.

The interrogative *leita who?*, may also be classed as a pronoun. The base here is clearly *lei*, as in Toaripi, but with *-ta*, a variant of *ila with*, instead of *sa*. For the object form we find *leira*, and for the genitive *leita-ve*. These forms are doubtless to guard against confusion with *lei*, from the auxiliary *lai*, for *leila* is a form of the imperative, and *leive* the continuous singular, *leiro* the plural forms of *lai*. This interrogative pronoun takes the position immediately before the verb, e.g. *ma eharu leita la hararuaila? this thing who has-damaged?*.

Adjectives. There is close conformity between Orokolo and Toaripi in the position of adjectives. One that precedes the noun in Toaripi will be found to do this also in Orokolo; or if in the more normal position after the noun, the Orokolo counterpart will also have such a position. A few adjectives may precede or follow the noun; the two languages conform in this also. The only exception is Orokolo: *uku some*, which may precede or follow, e.g. *uku haela* or *haela uku*. The Toaripi: *hea some* may only follow the noun.

Similarly when the negative Orokolo: *aue*, Toaripi: *auke* is placed after an adjective to denote absence of a quality, both languages reverse the basic adjectival pattern and place the negative adjective phrase before the noun, e.g. *heaha aue eharu bad not thing*, Toaripi: *maealolo auke etau*. With this cf. *eharu heaha thing bad*.

Although they are generally unmarked for number, the few common adjectives in Orokolo that have plural forms marked by reduplication are given in Table 17.

Table 17

	Singular	Plural		Singular	Plural
<i>different</i>	lahua	lahualahua	<i>big</i>	eapapo	ehoaha
<i>bent</i>	haiae	haiae haiae or hahiae	<i>small</i>	hekai	titaeka, or titaetitae
<i>naked</i>	maheare	maheheare	<i>long</i>	heaikapo	heahikiapi
<i>straight</i>	ehoe	ehohoe		heaikapo	
<i>rejected</i>	haure	hahaure	<i>bad</i>	heaha	heahaha
<i>like</i>	hovea	hoveahovea	<i>meek</i>	here	herehere

Adjectives Marked for Number

This list is longer than the one given for Toaripi (p. 324); it includes all the Toaripi adjectives listed there except two.

To intensify adjectives Orokelo employs reduplication only with *heaha* *bad*, e.g. *eharu heaha heaha very bad thing* and *karia* (see below). The plural for *heaha* is *heahaha*. The suffix *-ka* is found only with *hela* *beautiful*, *hela-ka very beautiful*. In Orokelo it is with nouns rather than adjectives that the suffix *-apo* is used. We find, however, *hurahapo very wide*, and there is also *heaikiapo long*, but here the suffix has no intensive force.

In a manner similar to their Toaripi counterparts, we find *eapapo* (= Toaripi: *rovaea*) and *havahu* (= Toaripi: *kofa*). Thus *veveke havahu truly good*, and *pura huruhuru eapapo very wet cloth*. Another word *iele* (= Toaripi: *eite*) is used somewhat differently in the two languages. In Orokelo it appears as an adjective by itself (= Toaripi: *kofa true*), e.g. *oharo iele word true*; we also find *iele havahu true indeed*. It is used to intensify other adjectives, e.g. *veveke iele good very*. To diminish quality *perehekai*, like Toaripi: *taheka little*, is put before the adjective, e.g. *ma perehekai ahea water little hot*. There is also the use of *maea*, as in Toaripi, following the adjective, e.g. *aheke maea rather strong*. To this *hovea like* is sometimes added: *aheke maea hovea strong somewhat like*. Here again (cf. p. 325) if *maea* precedes the adjective, it is the noun *maea body*; thus *maea aheke strong body*.

The first four numbers are: *haroapo*, *orahokaila* (or without the *-ila*, *orahoka*), *ilehoila*, and *hari-ila*. For the origin of the last named

see p.293 Ray (1907:323) gives a list of numbers up to twenty-seven in which parts of the arms, shoulders and face are used as tallies. This method accords with that found amongst the Namau, and differs from the traditional Toaripi method which used the fingers and toes. Here is further evidence that the Western Eleman (see p.290) have a mixed Namau origin. Numbers from English have now superseded the traditional numbering, although the *ila* is often added onto these introductions, e.g. two *ila*.

With one exception all the following indefinite quantifying adjectives take the position after the noun: *ae any*, *oaria all*, *many*, *perehekai few*, *karia none*, *karia karia iele none at all*. The exception is *uku some* which may precede or follow the noun.

The order of position for adjectives is the same in both Orokolo and Toaripi (see pp. 325-6). As in Toaripi there is no formal grammatical comparison. Here is an example in Orokolo along the lines of that given in Toaripi on p. 326: *Harupa are va haela veveke iele, aka areve akoreheari veveke va ka, Harupa he* (subject marker) *person good very, but his younger-brother good not*.

The verb system. Since the verb systems in the two languages Orokolo and Toaripi show such a close parallel, it does not seem necessary to repeat what will be found on pp.326-335, under the Toaripi heading. The comparative paradigms at the end of this chapter give the variation in the verb forms. Here we shall deal with other types of difference, and we shall take the material in the same order as that in the Toaripi section.

In Orokolo the great majority of verbs end in *-a*. There is a variant *-au* found with approximately fifty verbs. Four other verbs have the ending *-u*; i.e. *ku build*, *mahumu give suck*, *mai muru pinch*, and *ukavu go to land*.

Apart from derivative forms there are only about a dozen verbs in Orokolo that end in *-i* or *-e*, the latter being limited to two verbs; *eke come from west* and *iupe look up*. The *-i* verbs in Orokolo are those that have this same ending in Toaripi, if allowance be made for consonantal changes and vowel modifications, e.g. Orokolo: *kariki*, Toaripi: *pisosi make*, Orokolo: *overa hihi*, Toaripi: *evera sisi rub noses*. Verbs which end in *-ou* are even less common than those that end in *-i* or *-e*.

The stative verbs, with *-a* ending as in Toaripi, conform to the ending of the plain form for most Orokolo verbs. Nevertheless they have certain

peculiarities of morphology not found with the -a type of verbs mentioned above. There are moreover singular and plural forms throughout, and they are all intransitive. Instead of Toaripi: *pea*, unmarked for number, Orokololo: *vea* in the form of -*ve* (sing.) and -*ro* (plur.) from *roa*, are used to form the present continuous.

The auxiliaries have the following forms: *lai*, *ara* and *hara*, together with *pua*, the auxiliary of totality. Here Orokololo has a complication, not found in Toaripi, in that *haea*, a plural form of *hara*, is also used as an auxiliary of plurality with verbs that do not have plural forms of their own. As such it cannot be used alone, and so must be classed as an auxiliary, but it is nevertheless anomalous in that it requires before it *va*, the verbal conjunction, used otherwise in Orokololo and in Toaripi (see Toaripi: *vo*, p. 330) to link together finite verbs only.

The auxiliary *lai*, like Toaripi: *loi*, derives its various forms from the converb *lei*, identical in both languages. Thus: *leipe* (rem. past), *leive* (sing.) *leiro* (plur.) (pres. continuous), *leivila* (sing.) *leilula* (plur. freq. rec. past). As with Toaripi: *lai* is used with a very wide range of words, e.g. nouns: *horova lai do work*, *elau lai play games*, *ma lai* (of tide) *recede*; adjectives and adverbs: *mahuka lai be soft*, *veveke lai be good*, *maeamaea lai be near*, *horova haharihahari lai do work slowly*.

In the form *lei* it may be used in a causative sense, as in Toaripi, before auxiliary compounds such as are described above, or before other verbs. Thus *lei ehoe lai make straight, rectify*, *horova lei hahari hahari lai make, cause, to do work slowly*. In the form *lai* it appears as a suffix to the -*ki* form to mark for future, e.g. *iapakilai will hear*. With *lai* compounds it becomes *leikilai*, e.g. *horova leikilai will do work*, and with *lai* both as a causative and to mark for future; *lei veveke leikilai will make good*. As in Toaripi, *lai* is used to unite a verbal phrase, e.g. *pekai kihoa lai ascend descend do*, i.e. *go up and down*.

Whereas Toaripi: *loi* is unmarked for number, Orokololo by the use of the auxiliary *haea*, preceded by the verbal conjunction *va*, has the plural form *leivahaea*. Various suffixes to mark for tense, aspect, etc., are added to *haea*, e.g. *leivahaeape* (rem. past), *leivahaeakilai* (future). Thus: *ere la eharu oaria ve akea ve leivahaeakilai they those things all's above at shall-be*, i.e. *they shall be over all those things*.

To explain the various forms of *ara*, the second auxiliary one must seek a second base, as indeed with the Toaripi: *auai*. This in Orokololo is

a (cf. Toaripi: ai), from which we get *ape* (rem. past), *avila* and *alula* (freq. recent past, sing. and plur.). From the base *ara* we find *la arila* (simple rec. past), *arilai* (future), and *ari vei* (infinitive).

As with Toaripi: *auai*, Orocolo: *ara* is used with words that denote sounds of various kinds, e.g. *hi ara to cry*, *ape aruru ara to yawn*, *oharo ara say, speak*. Reduplicated words are also compounded with *ara*, e.g. *laukelauke ara sway from side to side*. Some words employ both *lai* and *ara* with some variation in meaning, e.g. *pelaea lai be proud, vain*; *pelaea ara to boast, brag*.

In its various forms *hara* is generally identical with *ara*, but with *h-*prefixed. This was originally the instrumental marker *ha* (see p. 353), but now coalesced with the verb. As stated above *hara* has *haea* as the plural form. This it may be noted is a plural of action or state, not of subject, e.g. *are aroa hahave he is making a string bag*; *are aroa haeakive he is making string bags*. With the exception of *hara kill*, there is a close parallel between Orocolo: *hara* and Toaripi: *sauai* in the types of meaning found with these auxiliaries, e.g. *plait*, *kile hara plait mat*; *a hara burn*, which is both intransitive and transitive; *pai hara chop up sago pith*; *eroa hara be hungry*. (Cf. p. 329). The two languages do show some variation on this point, e.g. *maea hara be ill*, which in Toaripi is *eka loi*; also *āra hara give a shout, call*, for which the Toaripi is *i auai*.

The auxiliary of totality *pua*, possibly because of *haea* the plural auxiliary, is not used so freely in Orocolo as Toaripi: *puavai*. The following is an example of its use: *la kora oaria ere hahaeapuakilai, they will fell every tree*.

Number with verbs is much more complicated in Orocolo than it is in Toaripi (cf. p. 329). This stems from the following: (i) verbs that have plural forms are more than double the number as compared with Toaripi. (ii) The auxiliary *hara* has a plural form *haea*, so that all compounds with *hara* have plural forms. (iii) This *haea* is also used with the verbal conjunction *va* as an auxiliary of plurality. (iv) The continuous and the habitual aspects formed from *vea* and *roa* are marked for plural. The basis for using plural verbs where they are available, or some other means for marking for number, is still, as in Toaripi, the state or action of the verb. While there is no formal agreement in number between subject and verb, with intransitive verbs we do find an accord in number. Since the suffixes for aspect are taken from the intransitive verbs *vea* and *roa*,

their use also shows an accord in number between subject and verb. With transitive verbs, however, the accord in number is between the object and the verb. We may thus find verb forms that are marked singular or plural in respect of the subject, but plural or singular in accord with the object. Thus the verb form *itavavahaearo*, *are calling (them)* = *itava call+va+haea+ro*, indicates that both subject (by *-ro*) and object (by *va+haea*) are plural. If the suffix be changed to *-ve*, a singular subject is indicated.

Verbs in Orokolo are marked for five tenses which agree closely with the five tenses as found in Toaripi. For the forms see the paradigms at the end of this chapter. It may be noted that the recent past has *la* the verb form marker; this is lacking in Toaripi. While both languages use the verb form marker with the immediate future, Orokolo places this before the verb stem, e.g. *la iapakilai*. In contrast Toaripi uses the infinitive form followed by *la* before the *roi*, e.g. *mapai vei la roi about to hear*.

In marking verbs for aspect Orokolo (see p.358 and above), uses *vea* for singular and *roa* for plural suffixes. Apart from this difference over number, in the significance of the various forms the two languages are in close accord. (See p.330).

The use of the demonstratives with verbs is detailed on pp.351-2 and there is no need for repetition here.

The converb in Orokolo, as in Toaripi, is an unmarked verb form used before another with which it agrees in respect of tense, aspect and mood. Forming the converb is simply a matter of adding *-i* to the plain form, e.g. *iapa*, *iapai hear*, *peka*, *pekai ascend*, *paraea*, *paraeai set free*. The few verbs that end in *-ou* undergo some change, however, the converb being *-ai*; *urou*, *urai stand up*. A few variations in form are seen, such as *ava* (1) *get*, which becomes *avi* to distinguish it from *ava* (2) *sit down*, with converb *avai*.

Mention has already been made of the verbal conjunction *va* in connection with the plural auxiliary *haea*. This *va* is used when the action of one verb is involved in the action of another, the converb form being used for the first verb, e.g. *are au arai pavi eava va aeape*, *he just distant stood looking was-staying*, i.e. *he simply stood at a distance and continued looking*.

The infinitive marker *ve* is used in Orokolo as a suffix joined to the *-ki* form of the verb, e.g. *iapakive to hear*. With the auxiliaries we get

leikive, arive, harive and haeakive. The infinitive often expresses purpose, e.g. *ara ore leikive in order that I may know*. With *ikivere* *desire, wish*, we have what is really a noun, which requires the auxiliary *lai* to turn it into a verb. This is often omitted when used in a present sense. As it is a noun *ikivere* precedes the verb in the infinitive, instead of following as does the Toaripi equivalent *haikaeai*, e.g. *areve ikivere elalila la karakive his desire us-two to marry*. If the auxiliary *lai* be present, then *ikivere* with *lai* takes the final position as a verb, e.g. *eve lou ero eapai avarakive ikivere leive, your mother to-you food to-give is-desiring*.

The imperative in Orokolo is somewhat complicated in that in addition to the emphatic form which, like Toaripi, is identical with the infinitive, we find two other forms, one in which *-ila* is joined to the plain form, the other one ending in *-ki*. It may be noted that when consonantal changes are made, the former imperative form corresponds to the ordinary imperative as found in Toaripi (*-ia* from *-ita*), while the *-ki* form agrees with the ordinary imperative *-ti* as found in Sepoe. There is a tendency for the Orokolo: *-ki* forms to be in the nature of requests or exhortations, for the courtesy marker *hela* is sometimes added, an addition that is not found with the *-ila* form. Otherwise there is little difference in meaning between these two imperative forms.

In Orokolo as in Toaripi the relative verb may be recognised by its position being immediately before a noun. It is only a demonstrative that may come between. The indefinite relative, which is unmarked for tense or aspect, has the *-ki* ending, and thus agrees in form with the second of the two imperatives just described. Although they differ somewhat in form (see paradigms) the relative verbs in Toaripi and Orokolo are in close agreement as regards tense and aspect. Thus: *are eharu aerapape la ita ve le pavape, he things hid that place at then stood*, i.e. *he stood at the place where he had hidden those things*, passes easily into Toaripi. Perhaps the sense is made clearer by the addition of *evera* *formerly* to the relative verb; Toaripi: *are etau evera milafukōpe lea oti voa pavōpe reha*.

Relative verbs are commonly used with adverbial clauses of time, when *hoa* *time*, or *hare* *day*, appears as the noun, or with similarly constructed clauses of location which have *ita* *place*, or some such noun with the relative verb. On occasion a clause will combine both *place* and *time*. Both nouns cannot follow the relative verb; *ita* *place* then immediately

precedes the verb, while *hoa* follows it, e.g. *are ita haiavape la hoa ve*, *he place sat-down that time at... i.e. when he had sat down at that place...*

Negatives. A number of differences arise between Orokolo and Toaripi in the manner of making negative a verb phrase. In order that the negative marker *ka* may preserve its identity and not become confused with the verb, we find that in Toaripi it is lengthened to *kao*, and this takes the stress of the phrase /*màpaikaó*/. This same end is achieved in Orokolo by placing the verbal conjunction *va* between the verb and the negative marker, the latter again taking the stress /*ìapavəká*/. Whereas in Toaripi this negative phrase combines present and past reference, the Orokolo combines present and future, e.g. *iapa va ka he does/will not hear*.

The same negative marker *ka* is used also with the prohibitive, when it precedes the verb and *-lue* follows, e.g. *ka iapalue do not listen*. With the auxiliary *ara* this becomes *kailue* (*ka+ai+lue*). For this there is a variant *kavalue*, which is *ka+va+a+lue*, where the verbal conjunction prevents elision between *ka* and *a*.

The past negative has a form distinct from the present. This is *au* preceding the recent past form of the verb, although the negative includes also the remote past, e.g. *au iapaila did not hear*. For the present continuous or incomplete action this same negative marker *au* is used, supported by *-kue* suffixed to the verb, e.g. *au iapakue not hearing or not yet heard*. This is to be understood as formed from *iapaki+ue*.

For the relative indefinite verb Orokolo has *aue* in the same position as *auke* in Toaripi, e.g. *iapaki aue haela listening not man*. For the past tense, however, Orokolo uses the same form for the negative as that used in finite constructions, e.g. *au iapaila haela not listened man, a man who did not listen*. For the negative habitual, where Toaripi has *mapai sore never hear*, Orokolo has the same form as the relative negative, i.e. *iapaki aue never hear*.

What is said on pp.313-4 concerning Toaripi questions applies equally as well to Orokolo, except that the interrogative marker is *ha* instead of Toaripi: *ei*. The examples given there are in Orokolo as follows: *ave ikikekela learia ha?* (= Toaripi: *ave haiiri lekoru ei?*) *your mind what?* *A lahoa aukilai* (= Toaripi: *a leavoa terai roi?*) *you where go-will?* *A maia aukilai* (= Toaripi: *a movoa terai roi?*) *you here go-will* *A au auila ha* (= Toaripi: *a terai kao ei?*) *you did not go?* *a au va ka ha?* (= Toaripi: *a levi terai roi ei?*) *you will not go eh?*

Real conditionals in Orokelo have a similar type of construction to that found in Toaripi, but with -lava as the conditional marker in the place of Toaripi: *oria* (see p. 334). While it is possible to omit the conditional marker from the first example given below, and say *la iapakila* in the place of *la iapakilava*, it cannot be omitted elsewhere:

Positive: <i>if.... listen</i>	Negative: <i>if...do/does not listen</i>
<i>la iapakilava</i>	<i>iapaki aue la leikilava</i>

With a relative verb in the protasis:

<i>if.... person who listens</i>	<i>if... person who does not listen</i>
<i>iapaki haela la leikilava</i>	<i>iapaki aue haela la leikilava</i>

With unreal conditions, the following is the model:

<i>would have listened</i>	<i>would not have listened</i>
<i>la iapaki</i>	<i>iapaki aue leiki</i>

Another method, for which there is no parallel in Toaripi operates with the protasis. The verb assumes the converb form, preceded by *va* and followed by *la*. The verb in the apodosis takes the indefinite future form, e.g. *vevaea kapena haiavaki ita ore va lei, la, are va elavelave le ekekilai*, *if the boat captain had known the anchorage, he would then have come quickly*. It may be noted that here we get the real conditional marker in the reverse order, *va... la*.

The Toaripi subordinate clause marker *ave*, mentioned on p. 335 has the same form in Orokelo. It requires before it the infinitive form of the verb, but with *ave* in the place of *-ve*, e.g. *la hoi kiva leila, a ave mai haelapaki ave*, *that knife care take, you your hand cut lest*.

Adverbs. The same suffixes used to form adverbs in Toaripi occur also in Orokelo. Thus *-ka*: *hihika openly* from *hihi open*, and *hikika separately* from *hiki separate*. Similarly *-ri*: *muruhari secretly* from *muruha secret*; *mari* and *lari* from the demonstratives (see p. 351). Adverbial phrases

may be formed by the use of *ila* (= Toaripi: *ita*) which is treated sometimes as a suffix, e.g. *harapaila with pretence*. A number of common adverbs, e.g. *elavelave quickly*, *aireaki afterwards*, do not have such suffixes, but they may be identified by their preferred position which is immediately before the verb. In this Orokolo is in complete agreement with Toaripi (see p. 335).

Adverbs are intensified by the use of *eapapo big = very*, *havahu* or *iele truly*, the same words as are used with adjectives. These intensifiers follow the adverbs, e.g. *ere va ovohae kariri haela maea iele laiekepe, they (subject marker) blind man near very made come*. Where there is an adverbial phrase with *ila* it is intensified with *iele*, e.g. *ahেকে iele ila oharo ehoe kileakive, strength true with word correct teach*. To diminish adverbs *perehekai little* is used in the same way as it is used for adjectives. This same *perehekai* may be used on its own as an adverb meaning *a little*, e.g. *are perehekai ai haiavape he a little went (converb) sat-down*.

Interrogatives. These are formed from the same base *le* as is found in Toaripi. They may also be grouped as in Toaripi (see pp. 336-7) according to whether they are mainly adjectival or mainly adverbial in position.

With interrogatives adjectivally positioned we find *leavaila how many? much*. This is from *le + mai hand* - the fingers of the hand were formerly used as tallies + *ila* is found with the traditional numbers (see pp. 356-7). With *le*, *lela what? or which?* we have the interrogative base lengthened when necessary to regularise stress and prevent elision. Its position is the reverse of *lekoru*, the Toaripi counterpart, for it usually precedes the noun, e.g. *ara le heaha leipe I what wrong did?*. Before *eharu* we find the lengthened form *lela eharu? what things?*. When it is necessary for the interrogative to follow the noun, *ha*, the interrogative marker, occurs with it, e.g. *a va ikivere le ha? you (subject marker) desire what eh? i.e. what do you want?*.

Although classed as a pronoun, *leita* can function adjectivally, when its only possible position is following the noun: *e va haela leita aukilai ha? you (subject marker) person who will go eh?, i.e. what person among you?*. A common use of *leita* is with *rare name*; *ave rare leita ha? your name who eh?, i.e. what is your name?*.

Interrogatives mainly adverbial in position include: *lahoa, lahoaki, lahoa ve, where?, where to?, where from?*. The form of the interrogative

here has been influenced by the demonstrative *la*. *Time* or *place* is the meaning of *hoa*. Between *la hoa that time, place* and *lahoa where?* there is a slight difference in pronunciation, the former being /la:hoə/, the latter /ləhoə/. Position is, however, the chief distinction between the demonstrative noun phrase and the interrogative as is shown by the following quotations from Matthew 2. 1 and 2: *Iesu Bethlehem Iudea ve epape la hoa.. Jesu Bethlehem Judea in was born that time... i.e. when...* and *Jew haela ve amua lahoa la epaila? Jew people's headman where has-been-born (rec. past)?*. The suffix *-ki* = *to, motion towards*; *lahoaki* is thus *where to?*. For the meaning *where from?* *ve* is added to the interrogative to form the phrase *lahoa ve?*.

The adverbial suffix *-ri* has been added to form *leari* or *learia how?* the lengthened form being heard when the interrogative is in the final position, e.g. *eve ikikekela learia ha? your thought how eh?*, i.e. *what's your opinion?*. This could be expressed by *ave iki lehae? your mind how?*. Like *Toaripi: leafeare*, *lehae* can form a construction with the auxiliary; *a lehae leive? you how are?*.

The interrogative *leahau when?* is from the same source as *lahoa*, for *hoa* means *time* as well as *place*. Here there has been a change of vowels to differentiate the interrogative. It takes the position before the verb, e.g. *are leahau ekelai? he when come-will?*. If the question be in respect of duration of time, i.e. for how long, the interrogative takes the form *leahovea*, e.g. *are ma maea leahovea koarape? he this sickness how-long had?*.

When the postposition *ve for* is joined to the interrogative base we get *leve why?, on account of what?*. Its composite origin is shown in: *a le hela ve?* in which *le* and *ve* are separated by *hela*, the term of politeness, *you what may-I-say for?*, i.e. *what are you after?*. It is usual, however, for the components to stay together, e.g. *e areve oharo leve iapakilai? you his talk why listen-will?*.

Two interrogative phrases embody *leve*. These are: *ipi leve*, and *ehovea leve*. In this context *ipi* and *ehovea* are really synonymous = *cause*. The former is used at the beginning of the question and requires a finite verb form, e.g. *ipi leve a araro veveke rare laila ha? cause what you me good name have-said eh?*. The other phrase takes the final position and is employed with a relative verb, e.g. *a araro rare veveke la itavaki ehovea leve? you me name good (object marker) calling (relative indefinite) cause what?*.

The postpositions, as in Toaripi, are four in number: (i) *kai to*, *motion towards*. As noted on p. 355, this postposition, and only this one, requires the object form of the pronoun before it, e.g. *arero kai to him*. It is used only of persons. (ii) *ve, vea in, at*. The longer form *vea* is used in pauses; *uvi ve in the house*. This postposition generates a number of postpositional phrases, e.g. *akea ve on the top, above*; *hihi ve in the open*; *ipi ve below, at the base*; *maeamaea ve near to*; *oropa ve in front, before*; *ure ve within, in*. (iii) The Orokelo counterpart for Toaripi: *ita is ila with*. For its varied use morphologically see p. 338. There is an abbreviated form *i* seen when *ila* is used as a conjunction, e.g. *Eoe i Luru ila Eoe with Luru with, i.e. Eoe and Luru*. Occasionally *ila* is used with an instrumental meaning, e.g. *a ila with fire*, where Toaripi employs the instrumental marker *sa*. Thus: *a keko hoi ila haeakilai you bamboo knife with fell-will*. (iv) *v'ila, ve'i for*. This is really a compound form made up of *ve+ila*, or the shortened form *i*. It is found in phrases with pronouns and nouns, e.g. *ara v'ila for me, on my behalf*. Such phrases may come before or after the verb, e.g. *la marita Pipi v'ila hi ape, or hi ape Pipi v'ila, those girls Pipi for cry made*. A subordinate clause of reason is introduced by *ehovea* and concluded by *v'ila*, e.g. *ere araro harilai ehovea arave ua v'ila, they me kill-will because my wife for*. Sometimes *ila* only, instead of the compound, concludes the clause, i.e. *arave ua ila*.

The four conjunctions listed for Toaripi have these forms in Orokelo: *aka but, however*; *ae and*; *ka* sometimes lengthened to *kai also*, and the paragraph marker *kahara so, well*. There are also other words - notably *ila* - that link words and clauses. Moreover, the four words named as conjunctions are not limited to conjunction in their use, but that is their main function. In the shortened form *ka, aka* is also used in the sense of *or*, e.g. *houhuka ka uruka white or black*. On occasion *ae* is joined to *ka* to form *aeka*. It then has an adverbial meaning *again*, e.g. *aeka kariki make again*; *aeka lai do again, repeat*.

8.18. Summary

The Elema a single ethnic group, numbering 37,000. Speak closely related languages and dialects. Of inland origin, but long established as a coastal people. (8.4-6) Their neighbours to the east the Roro, who with the inland Tati (North Mekeo) and Kovio, speak languages of Melanesian affinity. In centre of Elema coast are the Raepa-Tati, a

small group whose language has its nearest affinity with Eleman. (8.7.) Western neighbours the Namau (Koriki), who had an early but strong cultural and linguistic influence on the Elema. Namau and Eleman languages stem from common source. Differences between Eastern and Western Eleman; latter partly Namau in origin. (8.8-9.) Motu contacts from the hiri trading voyages. Two Elema sub-tribes Toaripi and Moripi themselves adopted the practice. Toaripi origin of Hiri Motu. Motu loanwords present in all Eleman languages and dialects.

(8.10.) Elema sub-tribes distinguished by locality, diverse legends of origin, variations in traditional cultural pattern and by differing languages or dialects. Western Eleman forms of speech closely related; marked by absence of the phonemes /f/ and /s/, present elsewhere. (8.11.) Within any given dialectical boundary no absolute uniformity of speech. Kaipi variations (Table 4) an example of this. (8.12.) Simple comparison of word lists obscures somewhat the underlying affinity between Eleman languages and dialects. Examples of lexical and semantic variation. (8.13.) Clan basis for certain forms of traditional speech; examples from Iokea village. (8.14.) A lexicostatistical comparison (Table 6) of the Eleman languages and dialects together with Namau and Raepa-Tati.

(8.15.) Toaripi: progress of knowledge of language. Phonology: vowels, consonants, diphthongs, vowel clusters; stress and juncture. (8.15.2.) Grammar: syntactic constructions; noun phrases; verb phrases. Sentences lacking finite verbs; simple, compound and complex sentences with finite verbs. Demonstratives: definitions; with nouns; with verbs; compound forms; object marker; verb form marker; as function words. Nouns: compound forms; no grammatical gender; number; object, instrumental and genitive markers. Pronouns: (Table 7) subject personal pronouns; analysis of forms; number; object and genitive forms; interrogative. Adjectives: position, five out of six follow noun; with negative basic position reversed; number with adjectives (Table 8); intensifying adjectives by reduplication, by adding suffix, by using rovaea, kofa and foromai. Diminution of adjectives; numbers; order of adjectives; no formal grammatical comparison.

The verb system: plain form used as lexeme; the four variations in endings to plain form; auxiliary verbs, number; tense; aspect; verbs with demonstratives; converb; infinitive; imperative; relative verb; negatives; questions; conditionals; subordinate clause markers. Adverbs: formation from adjectives by -kao, or from adjectives, nouns or demonstratives by

-ri; formation with ita; position; intensifying adverbs; diminution of adverbs. Interrogatives: in adjectival or adverbial position; interrogative phrases. Postpositions: four in number; simple and compound forms; postpositional phrases. Conjunctions.

(8.16.) Sepoe. Ray's 'Lepu', but this name unknown locally. Strong influence of Toaripi. Distinctive Sepoe intonation pattern. (8.16.2.) Agreement between Orokololo and Sepoe seen in subject marker *va* present, but confined to pronouns. Apart from subject marker, and except for *hia*, pronouns agree with Toaripi. Origin of *hia*. Demonstratives function as in Toaripi. Adjectives. Verbs: close parallel with Toaripi though some variation in form; here affinity with Orokololo. Six stative verbs; origin of Toaripi: *moea*. The auxiliaries *loi*, *opua*, *sopua* and *puai*. Pattern of number with verb in general agreement with Toaripi and Kaipi. Relative verb has same position and function as in other forms of Eleman speech. Sepoe negative marker with relative almost identical with Orokololo, but other closer affinity with Toaripi. Finite past and present negative combined in single form as in Toaripi. Sepoe conditional patterns agree fairly closely with Toaripi. Position of adverbs conforms to general Eleman pattern; preferred position immediately before verb. Interrogatives (Table 10) (a) mainly adjectival in position (b) mainly adverbial; origin of forms. Postpositions as in Toaripi except for *ita* which is *ila*, as in Orokololo; postpositional compounds and phrases.

(8.17.) Orokololo. Ray's 'Eleman'. (8.17.1.) Phonology; vowel and consonant phonemes; considerable variation in use of /t/ as compared with Toaripi. Sound change Rules 1 and 2; absence of /f/ and /s/; sound change Rules 3 and 4; other types of change; prosthesis, metathesis. (8.17.2.) Grammar: sentence structure common pattern with Toaripi. Demonstratives: variations in vowels and form as compared with Toaripi; as function words; subject marker *va*. Nouns: compound nouns have same pattern as in Toaripi; gender; number; terms of relationship. Subject, object and genitive marker; instrumental marker *ha-* present, but not as free form. Pronouns: (Table 16) complexity of dual forms; interrogative pronoun. Adjectives: position agrees with Toaripi, but plural forms more extensive than in Toaripi; intensified or diminished by same means as in Toaripi; numbers; use of *ila*; traditional affinity of numbering with Namau; order of adjectives as in Toaripi; no formal grammatical comparison. The verb system: close parallel with Toaripi; comparative paradigms at end of chapter show variations; plain form endings; Stative

verbs; instead of Toaripi: -pea, vea in the form ve (sing.) and -ro (plur.) from roa used for present continuous. Auxiliaries: lai, ara, hara and pua. Unlike Toaripi: haea, plural of hara, used also as auxiliary of plurality with va for verbs lacking plural forms. Various forms of lai and their uses; ara, its forms and use; origin and compounds with hara. Number with verbs much more complicated than in Toaripi; reasons for this. Verbs marked for five tenses as in Toaripi. Use of verb marker; marking verbs for aspect. Converb formed by adding -i to plain form. Infinitive. Imperative, varied forms. Relative verb, position, forms, use of relative verbs. Negatives differences from Toaripi; negative markers. Questions. Conditionals, model constructions. Subordinate clause marker ave. Adverbs: suffixes used to form adverbs as in Toaripi; intensifying and diminishing adverbs. Interrogatives from the same base le as in Toaripi can also be grouped as to whether they are adjectivally or adverbially positioned; differences from Toaripi. Interrogative phrases. Postpositions: four in number; instrumental use of ila; postpositional compounds and phrases. Conjunctions.

Appendix A

Comparative Paradigms of Verbs

A.1 Stative Verbs

Meaning	Toaripi	Sepoe	Orokolo
<i>be seated, be in sitting position</i>	sing. aisesea plur. aipepea	ovitetea oviapea	tita avaipea
<i>be in prone position, be lying</i>	sing. eaea plur. sisea	eaea titaea	eaea eapea
<i>project out, be sticking out</i>	sing. foeba plur. fofoeba	faea fafaea	hoea hahaea
<i>have being, to be (no specific place)</i>	sing. mea plur. roroa	(vea) (roa)	vea roa
<i>be set, to be (in a place) dwell</i>	sing. pea plur. pepea	epea apea	aea, pea apea
<i>be inside; be floating</i>	sing. moea plur. movoea	vo eaea vo titaea	mura mumura
<i>be suspended, be hanging</i>	sing. toea plur. totoea	taea totaea	kaea kakaeha

A.2 Tense

		Verb -ai or -a	Stative	loi/lai	auai, ara
Plain Form (present)	T S O	mapai ovapai iapa	pea epea aea, pea	loi loi lai	auai ae ara
Remote Past	T S O	mapope ovapape iapape	peiape epeililipe aeape	leipe leipe leipe	ōpe ōpe ape
Recent Past	T S O	mapaita ovapaila la iapaila	peita epeavila la aeavila	leita loila la leila	arita opua la arila
Future	T S O	mapai roi ovapati lei iapakilai	peava roi epea lei aeakilai	leiti roi leiti lei leikilai	ari roi orei lei arilai
Immediate Future	T S O	mapai vei la roi ovapati ve la loi la iapakilai	pei vei la roi epea ve la loi la aeakilai	leiti vei la roi leiti ve la loi la lai	ari vei la roi orei ve la loi la arilai

A.3 Aspect

	Verb -ai or -a		Stative	loi/lai	auai/ara
	T	(la)mapai- pea	(pea)	(la)leipea	(la)aipea
Present Continuous	S	(la) ova- paitapea	(epea)	(la) leita- pea	(la)aepea
	O	iapave	aeave	leive	ave
	pl.	iaparo	apearo	leiro	aro
Frequent Recent Past	T	mapavota	peivota	leivota	ōvota
	S	ovapai- vovila	epeavo- vila	leivovila	ovovila
	O	iapavila	aeavila	leivila	avila
Frequent Remote Past	pl.	iapalula	aपालula	leilula	alula
	T	mapaiape	(peiape)	leiape	ape
	S	ovapai- lilipe	(peililipe)	leililipe	s.ovoveōpe
Habitual	O	la iapailape	aeaveape	leiveape	p.ovoroōpe
	p.		apearoape	leiroape	aveape
					aroape
Habitual	T	mapa vovea	pea vovea	lei vovea	o vovea
	(ii)	mapaitore	peitore	leititore	aritore
	S	ovapai vovela	pea vovela	lei vovela	o vovela
	O	iapaivila	aeavila	leivila	avila
	p.	iapailula	aपालula	leilula	alula

A.4 Relative Verb: Tense

Indefinite	T	mapaita	peita	leitita,leita	arita, oita
	S	ovapaila	epeaila	loila	arila
	O	iapaki	aeaki	leiki	araiki
Remote Past	as for finite verbs				
Recent Past	T	mapaia	peia	leitia	aria
	S	la ovapaila	la epeaila	la loila	la arila
	O	la iapaila	la aeavila	la leila	la arila
Future	T	mapai	pei	leiti	ari
	S	ovapati	epei	leikila	orei
	O	iapakila	aeakila	leikila	araikila
Immediate	T	mapai vei	pei vei	leiti vei	ari vei
	S	leita	leita	leita	leita
	O	ovapati ve	epea ve	leiti ve	orei ve
		loila	loila	loila	loila
		iapaki	aeakive	leikive	arive leiki
		leiki	leiki	leiki	

A.5 Relative Verb: Aspect

		Verb -ai or -a	Stative	loi/lai	auai/ara
Present Continuous	T S Os. p.	mapaipeta ovapaipela iapaivila iapailula	peipeta epeilila aeavila apealula	leipeta leitapela leivila leilula	aipeta aepela avila alula
Frequent Remote Past	T Ss. p. Os.	mapaiape ovapaivilipe iapailape	(peiape) (peililipe) aeaveape apearoape	leiape leililipe leiveape leiroape	ape ovoveōpe ovoroōpe aveape aroape
Frequent Recent Past	T S Os. p.	mapavota ovapaivovila la iapakila	peivota epeavovila la aeakila la apeakila	leivota leivovila la leikila	ōvota ovovila la arai- kila
Habitual	T O	and S. use relative indefinite forms uses relative present continuous forms			
Infinitive	T S O	mapai vei ovapati vei iapakive	pei vei epea ve aeakive	leiti vei leiti ve leikive	ari vei orei ve arive
Imperative	T S O(1) (11)	mapaia ovapati iapaila iapaki	peava epeati - aeaki	leitia leiti leila leiki	aria orei eila, aila araiki

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CHAPTER 9

THE GULF AREA IN THE LIGHT OF GREENBERG'S INDO-PACIFIC HYPOTHESIS

Karl J. Franklin

9.1. Introduction

Joseph H. Greenberg has now (1971) published materials, primarily etymologies of common IP (Indo-Pacific) words, but also including grammatical materials, mainly of pronoun sets, in which he classifies practically all NAN (Non-Austronesian) languages of the Pacific into one large group. The notable exception is the languages of the Australian mainland, i.e. he includes Tasmania. However H.B. Kerr (quoted in S.A. Wurm, 1971) also sees a linguistic connection between Papuan and Australian.

The problem now is just how to evaluate Greenberg's work, due to the magnitude of its contents. The only practical manner is for scholars who are well acquainted with a particular area to assess Greenberg's comments and classification of that area.

In this chapter I shall examine Greenberg's hypothesis as it is related to languages in and surrounding the Gulf District of Papua New Guinea. After summarising Greenberg's work I shall deal with the groups of languages and individual languages or dialects which he mentions in or near the Gulf area. Finally, I shall close by suggesting that the IP hypothesis has some basic problems, if Greenberg's treatment of the Gulf area is representative of his general thesis.

9.2. The Hypothesis

In an earlier study (1958, unpublished) Greenberg stated that he had determined nine major groups in New Guinea (=Papua New Guinea), as well as five other independent groups on other islands. Later, in another

unpublished report (1960), he demonstrated that by basing his classification on etymologies, all of the independent groups could be included within a single family and that his previous major groups were then subgroups of the family. The published version (1971), with certain additions here and there within subgroups, is substantially the same as the 1960 classification. Its publication coincides with that of three other works whose authors also present evidence for establishing certain broad groupings in the Papua New Guinea region (McElhanon and Voorhoeve 1970; Wurm 1971, 1972).

Greenberg implies that all of these NAN languages are genetically related. His taxonomic labels, however, do not always seem to reflect his confidence in this fact. Although he speaks of a 'single family' (p. 807), he also talks of a 'major linguistic stock' (p. 854), a 'super-group' (p. 833), and 'broader subgroups' (p. 809).

Wurm has long postulated the broader relationship of languages in the Highlands and elsewhere. See, for example, his studies in the same volume as Greenberg's IP hypothesis, in which he summarises the linguistic situation, as well as his most recent work on the problems inherent in classifying Papua New Guinea languages (1972). McElhanon and Voorhoeve (1970) were the first to publish evidence indicating a cross New Guinea type of linguistic relationship, although many others (including Greenberg) had hinted at it.

Greenberg's compiled materials are from published and unpublished sources. Listed it is indeed impressive: a maximum of 350 entries per language in some twelve main notebooks, plus three additional notebooks of grammatical notes. There are some sixty-eighty languages in each notebook, resulting in around, say, 840 sources. Each language is recorded within a similar (assumed) group in the appropriate notebook.

The description of the groups is from a West to East direction, with external New Guinea groups described before the internal ones. The groups proposed are (with Greenberg's abbreviations given for future references): (1) the Andaman Islands (AN, but usually written to avoid confusion with Austronesian); (2) Timor and Alor Islands (TA); (3) the North Halmahera (HA); (4) New Britain and New Ireland (NB); (5) Bougainville (BO); (6) the Georgia Archipelago, or Central Melanesia (CM); (7) Tasmania (TS); and (8) New Guinea Proper.

Eight major New Guinea groups are distinguished: (1) Western (WNG), which is generally Cowan's West Papuan Phylum; (2) the North New Guinea

'Stock' (NNG), which is divided into five 'major sub-families'; (3) the South-Western (SWNG) or Marind-Ok subgroup; (4) the Southern (SNG) or Kiwaic subgroup; (5) Northeastern (NENG), which is mainly the Madang area; (6) the Central subfamily (CNG), which is mainly but not entirely the Highlands; (7) the Eastern group (ENG); and finally (8) Unclassified New Guinea (UNG). Usually the latter refers to previously unclassified languages which Greenberg now places within one group or another of New Guinea Proper.

The languages of the Gulf District area are primarily within the SNG, but also within SWNG, CNG, and ENG.

Greenberg has attempted to deal with the problem of AN loans in his IP etymons by comparison with Dempwolff's Proto-AN reconstructions and with Malay. He also assembled vocabularies from some fifty AN languages for comparison. It does not seem that he has been entirely successful, as I shall mention later.

Lexical evidence for the validity of each IP group is given in sets of etymologies. A most general set of widespread etyma is also given, some eighty-four words in all. The sets given for each separate group varies from ninety-two for TA to twenty-seven for WNG. Within each set common IP etymons are noted, the most frequent representation being within the TA group. There are none within the WNG set and only one within the SNG and ENG groups.

Greenberg's grammatical evidence, as already mentioned consists almost completely of pronominal features: the form of the first person singular pronoun, the second person singular pronoun, first person plural, first person inclusive plural, third person plural, the suffix pronominal pattern, the pronominal prefix pattern, an alternate pattern (where the second and third persons are identical or where the first person is distinguished by vowel changes which are the same in the dual and plural), the inflection of the noun for number, the expression of sex genders (generally by vowel alternation), and finally the formation of a past tense by means of a suffix containing a velar consonant. In this last regard, in passing, it is interesting to note that Greenberg includes Kewa (of the Southern Highlands) by virtue of the -uga 'remote past' suffix. However, as the article he cites clearly indicates (Franklin 1964), this velar occurs only in the first person singular. All other persons are marked by an -s- instead of a velar consonant. In fact only the East Kewa contains such a velar at all (Franklin 1968 outlines the

dialects of Kewa and mentions this suffix in particular).

9.3. The SNG Subfamily

Greenberg (p. 829) numbers seven subgroups within his SNG subfamily. He also seems to use certain taxonomic labels interchangeable: 'Southern subgroup' on p. 829, but 'Southern subfamily' on p. 830. The seven groups of the subfamily or subgroups must then be implied sub-subgroups or sub-subfamilies, or of some such assumed 'closer' relationship. It is not clear what the status of each of these is, but his 'Kiwai' includes not only known Kiwai-type languages, but also Karami, Eme-eme and Mahigi. The known Kiwai languages, are those clearly demonstrated by S.A. Wurm (1951) to be members of one genetic family. Wurm has also shown the relationship of Kiwai on a broader front and his latest assessment of the whole Kiwaian situation can be found in Chapter 6 of this book.

Greenberg's 'Barika' language group of the SNG subfamily includes Barika, Dugeme, Karima, Tumu, (also Dumu or Kibiri), as well as Teberan (see Chapter 3) languages. Our own classification (Chapter 7) of these languages (excluding the Kiwaian) demonstrates that Karami, Eme-eme (or Pepeha), and Mahigi are members of a small group of languages which also includes Ipikoi. Greenberg includes the latter in his 'Kiwai', rather than 'Barika' sub-subgroup. But even within the so-called 'Barika', Greenberg's subgrouping does not clearly demonstrate the relationships which exist, or the fact that there is a great degree of variation within a group. For instance, Barika, Dugeme and Karima clearly belong together in one group, which we call the Turama-Omatian Family (Chapter 7), while Foroba, Ro and Sesa belong in the very distinct Teberan Family (Chapter 3). Tumu or Kairi as it is known in the Gulf, is only distantly related to any member of the Turama-Omatian Family. To call all of these families one subfamily implies a genetic closeness that cannot be demonstrated at present by any technique. In fact the inclusion of the Teberan Family (Foroba, etc.) with those of the Turama-Omatian Family (Barika, etc.) is probably the most misleading of the SNG subgroup, but the inclusion of all of these with the Kiwaian languages is equally without genetic proof. With the one language (Ipikoi, near the Purari River) where some degree of genetic relationship can be noted with Karami, Eme-eme and Mahigi, Greenberg classifies it instead in a subgroup much closer to the Kiwaian Family. On the whole his listing of languages within the seven groups is mixed and misleading. His group five (Parb) and six (Peremka) should

be considered as the same, while his group one (Kiwai) and two (Barika) should be divided into at least four groups. The same problem applies to his other subgroups such as ENG. If the sub-subgroups, where languages should be closely related, is in error, obviously this should cast some doubt on the broader high-level groups.

Returning to Ipikoi and its inclusion within 'Kiwai', there are no examples given which demonstrate its relationship with other groups. This would seem to indicate that it is in the wrong group. Nor are any examples given to reflect Pepeha (Eme-eme) clearly within the 'Kiwai' group. Other apparent faults in the relationships of languages in the seven groups of the SNG can be suggested: (1) in Greenberg's materials Tumu shows no relationship to the Kiwaian Family (with which it is adjacent), nor to the 'Kunini' or 'Bugi' groups, yet displays a relationship with the 'Jei' group which is in West Irian; (2) Foraba, etc. (of the Teberan Family, but in Greenberg's 'Barika' group) should be in the same group as Mikaru, which, however is in his Highland languages of the Central Group (p. 834-5). Or conversely, to be consistent, Greenberg should place Mikaru in the 'Barika' group. In both instances the languages appear seriously misplaced, although these are not by any means the only cases. Such instances do, however, cast doubt on the degree of exactness in the whole scheme.

Out of the eighty common IP etymologies listed (pp. 854-65) there are twelve that are found in the Kiwai subfamily. In Table 1 each of these words is noted and its presence or absence in the fifteen major IP groups (or subfamilies as Greenberg implies) is noted by a plus or minus. By examining the table it can be seen that the ratio of words which are cognate between the Kiwai subfamily and the other groups correlates somewhat with geographical proximity. The one notable exception is Bougainville, to which we shall return later.

The strong implied correlation between Kiwaian and NENG (eight/twelve words) is also somewhat surprising. Elsewhere in his work Greenberg reminds us that languages in the NENG area (Sepik-Madang) are generally as closely related to languages outside of NG proper as they are to languages within. However, Table 1 reveals that any member of the Kiwaian Family diverges from its centre of comparison (SNG) in terms of what might be illustrated by circles or waves. Chart 1, which follows Table 1 and illustrates this effect, is based on the information contained in Table 1. The numbering corresponds to Greenbergs; the glosses are as

follows: 4. *upper arm*, 5. *arrow*, 11. *blood*, 17. *cloud*, 20. *to dance*, 23. *ear*, 25. *eat*, 30. *fire*, 44. *leaf*, 47. *louse*, 67. *sleep*, and 82. *white*.

Those Indo-Pacific etymologies which are commonly found throughout several of Greenberg's subgroups (Greenberg 1971:854-65) are called 'Common IP' in the charts which follow. The numbers in the charts following the equal sign is the sum of the number of etyma in each subgroup.

Table 1

Common IP Etyma Found in Kiwaian Family

Ref. of Gloss	4	5	11	17	20	23	25	30	44	47	67	82	= 12
AN	+	+	-	-	-	-	-	+	-	-	-	-	= 3
TA	-	-	-	+	-	-	+	+	-	+	+	-	= 5
HA	-	-	-	+	-	-	+	-	-	-	+	-	= 3
NB	-	-	-	-	+	+	-	-	+	+	-	+	= 5
BO	-	-	+	+	-	+	+	+	+	-	+	-	= 7
CM	-	-	+	+	-	-	-	-	-	-	+	-	= 3
TS	-	-	-	-	-	-	-	+	-	-	+	-	= 2
WNG	+	+	+	+	-	+	+	+	-	+	+	-	= 9
SWNG	+	-	-	-	-	-	+	+	-	+	-	-	= 4
SNG	+	+	+	+	+	+	+	+	-	+	+	+	= 11
CNG	+	+	+	-	+	-	+	+	-	+	+	+	= 9
NENG	+	-	+	-	+	+	-	+	-	+	+	+	= 8
ENG	-	-	+	-	+	+	+	+	+	+	+	+	= 9
UNG	+	+	-	-	-	-	+	+	+	+	+	-	= 7
No. of Groups Exhibiting IP Etymon	7	5	7	6	5	5	9	11	4	9	11	5	

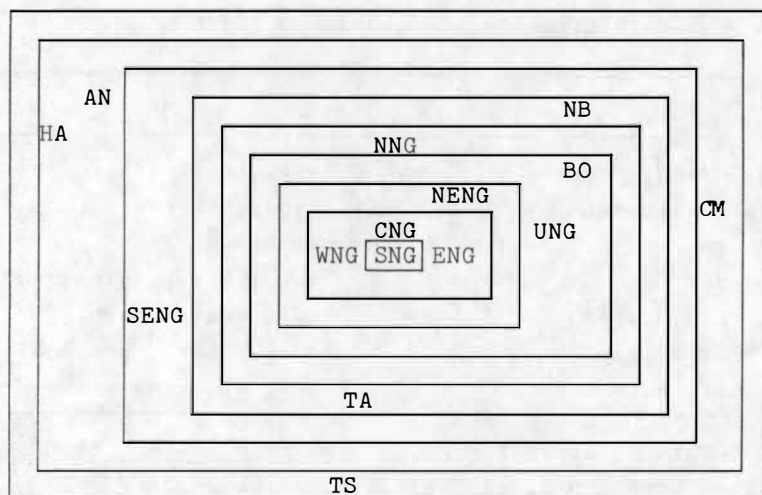


Figure 1

Kiwaian (SNG) Divergence Pattern

Greenberg's Kiwaian subgroup is the only one in the Gulf area with enough words compared to suggest that his etymological listing may correlate simply most often with geographical distance. If this is the case, such lines can probably be drawn on a similar basis from any given language group to the remaining, but this will not, necessarily, demonstrate that the languages belong to the same genetic group.

Turning now to the alleged relationship between SNG and BO, the etyma listed by Greenberg are given in Table 2. For the purposes of the argument all languages of his SNG subfamily are included. If only the true Kiwaian Family were included the lack of cognates would be even more obvious. All words which are similar are not included in the table, e.g. No.17 *tubeitubei* is listed, but not *tubetube*. The meanings again are: 11. *blood*, 17. *cloud*, 23. *ear*, 25. *eat*, 30. *fire*, 44. *leaf*, and 67. *sleep*.

Table 2

IP Etyma Found in Both BO and SNG

	BO	SNG
11.	ereng, ereere	ora, irii, arau
17.	tubeitubei	dapar, tobore
23.	rom	demeriwai
25.	noi	noku, anang, nina, na*
30.	nta, tai**	tai, taetae, atha
44.	***bara, pana	pori, iboro, proingai, epur
67.	at, asi	ute, ut, utua

* In SNG the forms are often glossed as *food*, rather than *to eat*.

** In BO the forms are glossed as *burn*, rather than *fire*.

*** The forms are incorrectly listed by Greenberg for CNG, rather than SNG.

Upon examination of the seven words in Table 2 and by the usual process of examining cognates by inspection (Gudschinsky 1956), only No.67 is plausible in all cases, Nos.25 and 30 are in some cases, No.44 is in one case, and the remainder only by some stretch of the imagination. No.25 *eat* crosses so many language families (or groups) that it does indeed appear to be some sort of universal etymon (see also Wurm 1973). But is it enough to support the whole IP hypothesis? What in fact can be inferred after examining the alleged relationship between SNG and BO?. What can be 'proven' by any chain relationship of two words, or are these observations on the same level as the common terms for *mama* or *papa* around the world (Jakobson 1962).

Of course for those who, such as the author, may believe that the universal basis for all human languages was simply a divine act coupled with a dispersal at the tower of Babel (as recorded in the book of Genesis, Chapter 11) such lexical remnants are expected and do reflect a common 'genetic' origin. But this is beside the point of Greenberg's argument and without a theoretical linguistic basis.

We shall now examine Greenberg's common IP etyma as they are reflected in three language families of the Gulf: the Inland Gulf, Teberan, and

Turama-Omatian. (More details on Teberan can be found in Chapter 3 of this volume, and on Inland Gulf and Turama-Omatian in Chapter 7). All of these are within Greenberg's 'Kiwai' and 'Barika' groups of his SNG subfamily. The first of our proposed language families, the Inland Gulf has from 0-6/8 common IP etyma. The occurrence of these in the other IP groups is displayed in Table 3.

Table 3

Common IP Etyma Found in Inland Gulf Family

Ref. of Gloss	4	5	22	30	42	71	73	74	= 8
AN	+	+	-	+	-	+	-	-	= 4
TA	-	-	-	+	-	-	-	-	= 1
HA	-	-	+	-	-	-	-	+	= 2
NB	-	-	-	-	-	-	-	-	= 0
BO	-	-	-	-	-	+	-	-	= 1
TS	-	-	-	+	+	+	-	-	= 3
WNG	+	+	-	+	+	-	+	+	= 6
NNG	-	-	-	-	-	-	-	+	= 1
SWNG	+	-	-	-	+	+	+	-	= 4
SNG	+	+	+	+	+	+	+	+	= 8
CNG	+	+	+	+	+	+	+	+	= 8
NENG	-	-	-	-	+	+	-	+	= 3
ENG	-	-	-	+	+	+	+	+	= 5
UNG	+	+	-	+	+	+	+	+	= 6
No. of Groups Exhibiting IP Etymon	6	5	3	8	8	9	5	8	

Glosses for Table 3 are:

4. *upper arm*, 5. *arrow*, 22. *dog*, 30. *fire*, 42. *husband*,
71. *star*, 73. *stone*, 74. *stone*.

On Table 3 we note that Eme-eme (of our Inland Gulf Stock, Chapter 7), as a member of Greenberg's SNG subgroup, displays a close relationship with not only other members of the same subgroup, but also with CNG. Greenberg's language members of the CNG are not listed, but examples

in the common IP set of etyma include languages as diverse as Tsaga (West Central Family and better known as Enga), Fore (ECF), Fasu (Kutubuan Stock, see Chapter 4), Gende (subfamily of ECF), Chimbu. etc. (CF) Jabi or Kapauku (of the WNGHP and Wissel Lakes-Kemandoga Stock), Aförö (Karam Family) and Hube (NC Huon Stock). All classifications given in parenthesis are from Wurm (1971), in the same volume as Greenberg's IP hypothesis. It is not possible to identify from the checklist or index of that volume languages such as Tjranki, Nangamb or Kuno, although Greenberg gives examples from each of these in his CNG subgroup. In fact what Greenberg calls CNG includes languages which have no demonstrated relationship between them, unless divergence from a specified language coupled with the well-known dialect chaining effect satisfies this requirement. The closeness that Eme-eme shares with CNG, UNG or WNG, as shown in Table 3, reflects the fact that there is often one language out of dozens in each subgroup that have a cognate shared with some other one language in some other subgroup. The sparceness of the genetic evidence does not disprove the IP hypothesis, but it does often discredit the subgroupings upon which the hypothesis rests. Further, does the presence of a cognate form for *dog* in several scattered areas suggest a genetic relationship, or do the cognates rather imply a common introduction of the dog into New Guinea? One guess may be as acceptable as the other. We should expect a common sub-stratum of cultural similarity in New Guinea which may also be reflected lexically, even today (for more on this point, see Chapter 10 of this book).

Table 4

Common IP Etyma Found in the Teberan Family

Ref. of Gloss	25	42	71	73	80	= 5
AN	+	-	-	-	+	= 2
TA	-	-	+	-	+	= 2
HA	+	-	-	-	+	= 2
NB	-	-	-	-	-	= 0
BO	+	-	-	+	-	= 2
CM	-	+	+	-	+	= 3
TS	-	-	+	-	-	= 1
WNG	+	+	+	-	-	= 3
NNG	+	+	+	+	-	= 4
SWNG	+	-	+	+	+	= 4
SNG	+	+	+	+	+	= 5
CNG	+	+	+	-	+	= 4
NENG	-	+	+	-	-	= 2
ENG	+	+	+	+	-	= 4
UNG	+	+	+	+	-	= 4
No. of Groups Exhibiting IP Etymon	10	8	11	6	7	

Table 4 outlines words from the Teberan Family (Greenberg's 'Barika'). The glosses are: 25. *to eat*, 42. *husband*, 71. *star*, 73. *stone*, and 80. *to walk*.

In that Mikaru is included by Greenberg (p.835n.) within the CNG subgroup (Highland languages), but other known members of this same Teberan Family are included in his 'Barika' group, cognates between the two areas will be now given in Table 5.

Table 5

IP Etyma Found in Both the Teberan Family and CNG

	Teberan	CNG
25. <i>to eat</i>	na (<i>food</i>)	ne, no, na, etc.
42. <i>husband</i>	mui (<i>man</i>)	eme (<i>man</i>)
71. <i>star</i>	bafa (<i>moon</i>)	bui, mbei, babang, ba (<i>moon</i>)
73. <i>stone</i>	kabu, kabo	kombuglo, kobule, kimp, etc.
80. <i>to walk</i>	togoi (<i>leg</i>)	(ne)sok ((<i>my</i>) <i>foot</i>) (nu)juk, togo, saga, tag (<i>hip</i>), etc.

Only one of the CNG forms is from Mikaru, namely *saga to walk*. It is not clear why all of Greenberg's 'Barika' group is not included on the CNG subgroup, if there is lexical justification for Mikaru to be placed in that group. However, and as MacDonald clearly demonstrates in Chapter 3 of this book, the Teberan Family does show an 11-13% average lexico-statistical relationship with Sau of the WF (Greenberg's CNG). Therefore either by its relationship to Sau or Mikaru, Greenberg should include the 'Barika' group in his CNG subfamily.

Finally, to conclude this section we shall compare words from those members of Greenbergs 'Barika' group (Barika, Dugeme and Karima) which we call the Turama-Omatian Family, with other IP subgroups.

Table 6

Common IP Etyma Found in Turama-Omatian Family

Ref. of Gloss	7	22	25	71	73	= 5
AN	+	-	+	-	-	= 2
TA	+	-	-	+	-	= 2
HA	-	+	+	-	-	= 2
NB	-	-	-	-	-	= 0
BO	+	+	+	-	+	= 4
CM	-	-	-	+	-	= 1
TS	-	-	-	+	-	= 1
WNG	-	-	+	+	-	= 2
NNG	+	-	+	+	+	= 4
SWNG	-	-	+	+	+	= 3
SNG	+	+	+	+	+	= 5
CNG	+	+	+	+	-	= 4
NENG	-	-	-	+	-	= 1
ENG	+	-	+	+	+	= 4
UNG	-	-	+	+	+	= 3
No. of Groups Exhibiting IP + Etymon	7	4	10	11	6	

Glosses for Table 6 are:

7. *bark of tree*, 22. *dog*, 25. *to eat*, 71. *star*, 73. *stone*.

There are several additional facts which should be pointed out with regard to Tables 3-6: (1) there are no common IP etyma shared by any pair of the three families and NB; (2) all of them, as should be expected, demonstrate a closeness within Greenberg's SNG subfamily; (3) the Inland Gulf group has an equal number of cognates with CNG, and the other two families have but one less with CNG than with SNG; (4) the number of cognates with NENG is in each case small, paralleling the numbers with such distant groups as AN, TA, HA or TS; (5) only the words for *star* and *stone* occur in all three families and common IP.

9.4. The ENG Subfamily

There are two main language families in the Gulf District which Greenberg includes in his ENG subfamily: the Eleman and Purarian, both described by H. Brown in Chapter 8 of this book. There are, however, a total of ten distinct groups of languages which Greenberg lists in his Eastern subgroup, which according to classifications proposed by Dutton (1969, 1970, 1971, 1973) are in eight separate language families. The family names given by Dutton (with the corresponding 'group' names of Greenberg) are: Mailuan (Mailu), Binanderean (Binandere), Dagan (Dimuga), Koiarian (Kobio(?) and Koita), Gailalan (Afoa and Fuyuge) and Kwalean (Koita). Eleman and Purarian, which are outside of the areas described by Dutton, correspond to Greenberg's Elema and Namau groups.

Greenberg's Kovio group is problematic. Except for the language called Kovio, the group is clearly a part of Dutton's Gailalan Family. As Dutton points out (1973:43) Kovio is a common name for Mt. Yule in this general area and what is now called Mountain Koiari and a dialect of Mekeo have both been called by this name. A. Capell calls Kovio, of the same general area, an AN language (1971:292).

In Greenberg's inter-group common etyma for his ENG subfamily, Elema has cognates listed with other groups as outlined in Table 7.

Table 7

Common IP Etyma Found in Both Eleman and ENG

Eleman Language	Cognate Group	Word No. and Gloss
Milareipi	Kovio	4. <i>bad</i>
Orokolo	Mulaha, Namau	8. <i>blood</i>
Toaripi	Fuyuge, Koita, Namau	13. <i>to cut</i>
Milareipi	Koita	18. <i>to fear</i>
Elema, etc.	Fuyuge, Koita	22. <i>girl</i>
Elema	Mulaha, Koita	27. <i>to hear</i>
Uaripi, etc.	Koita	40. <i>star</i>
Toaripi, etc.	Mailu, Binandere	41. <i>to steal</i>
Toaripi	Fuyuge, Koita	47. <i>word</i>

From Table 7 it seems apparent that, aside from Koita (Dutton's Koiarian), the relationship of Eleman within the ENG subfamily is tenuous. No cognates are given to show its relationship with Dimuga (=Dagan) or Afoa (=Goilalan), and only one with Mailu, Binandere, or Kovio.

Greenberg cites no pronominal forms from Eleman being in common with other members of the Eastern group. In short, the inclusion of Eleman (or Namau) within the ENG subfamily appear to be based more on geography than upon lexical or grammatical evidence.

There are seven words from Eleman which occur in Greenberg's common IP etyma. These were compared with the fifteen major subfamilies of the IP Family. Their presence or absence is indicated now in Table 8. The glosses are: 16. *child*, 24. *earth*, 27. *to fall*, 31. *fish*, 36. *hair*, 45. *lip*, and 59. *rain*.

Table 8

Common IP Etyma Found in the Eleman Family

Ref. of Gloss	16	24	27	31	36	45	59	= 7
AN	+	+	+	-	+	+	+	= 6
TA	+	+	+	-	+	-	-	= 4
HA	-	-	-	-	+	-	-	= 1
NB	+	+	-	-	-	-	+	= 3
BO	-	-	-	+	-	-	-	= 1
CM	-	-	+	+	-	-	-	= 2
TS	-	+	-	-	-	-	+	= 2
WNG	-	-	-	+	-	+	-	= 2
NNG	+	-	-	+	-	+	-	= 3
SWNG	-	+	-	+	-	+	-	= 3
SNG	-	-	+	+	-	-	-	= 2
CNG	-	+	+	-	+	-	-	= 3
NENG	-	-	+	+	-	-	-	= 2
ENG	+	-	+	+	+	+	-	= 5
UNG	+	-	-	-	-	-	+	= 2
No. of Groups Exhibiting IP Etymon	6	6	7	8	5	5	4	

The strong incidence of assumed cognate between Eleman and the AN (Andaman Islands) subgroup is illustrated in Table 9. No.36 is based on a t:d correspondence which crosses seven of Greenberg's subfamilies for this word. Except for AN and TA, the vowels are generally back and rounded.

Table 9

Assumed Cognates Between Eleman and TA

Gloss	Eleman	Andaman
16. <i>child</i>	aturea	etira
24. <i>earth</i>	mea	moga (<i>bottom</i>) mika(m) (<i>underneath</i>)
27. <i>to fall</i>	foi	pa
36. <i>hair</i>	utu	de
45. <i>lip</i>	ape (<i>mouth</i>)	pe, pa
59. <i>rain</i>	lai	leke

The position of Namau (our Purari) within the ENG subfamily by Greenberg again suggests a much closer relationship than is the case. The result of comparing Namau and common IP words is outlined in Table 10. Glosses are: 1. *above*, 7. *bark*, 11. *blood*, 18. *to come*, 21. *to die*, 25. *to eat*, 54. *name*.

Table 10

Common IP Etyma Found in Namau

Ref. of Gloss	1	7	11	18	21	25	54	= 7
AN	-	-	-	-	-	-	-	= 0
TA	+	+	-	+	+	+	+	= 6
HA	-	-	-	-	-	+	-	= 1
NB	-	-	-	-	-	-	-	= 0
BO	+	+	+	+	-	+	-	= 5
CM	+	-	+	-	-	-	+	= 3
TS	-	-	-	-	-	+	-	= 1
WNG	+	-	+	-	-	-	+	= 3
NNG	+	+	+	-	-	+	+	= 5
SWNG	-	-	-	+	-	+	-	= 2
SNG	-	+	+	+	-	+	+	= 5
CNG	+	+	+	+	-	+	+	= 6
NENG	+	-	+	+	+	-	-	= 4
ENG	-	-	+	+	-	+	-	= 3
UNG	-	-	-	+	-	+	-	= 2
No. of Groups Exhibiting IP Etymon	7	5	8	8	2	10	6	

Table 10 indicates that, on the basis of cognates between Namau and other IP subfamilies, it is most closely related to CNG and TA (six each), then BO, NNG, and SNG. Table 11 illustrates some of these assumed cognates.

Table 11

Assumed Cognates Between Namau and Other IP Subfamilies

Gloss	Namau	TA	CNG	BO	SNG
1. <i>above</i>	upai	epe (<i>upon, at</i>)	epa (<i>sky</i>) pu (<i>up</i>)	piai (<i>upwards</i>)	-
7. <i>bark</i> (<i>of tree</i>)	(iri)kape	koma	(na)kap (<i>(my) skin</i>)	kamu	kaibo (<i>skin</i>)
11. <i>blood</i>	aro	-	era	ereng (<i>red</i>)	oro, irri, arau (<i>red</i>)
18. <i>to come</i>	mina (<i>bring</i>)	man	nem, mena, mindi	maniai (<i>to go</i>)	umon, muinane, aman, man
21. <i>to die</i>	imua	umu	-	-	
25. <i>to eat</i>	nav	nawa, nei	nega, na, etc.	noi	noku, anang
54. <i>name</i>	noi	neene, nai, hanin	ena	-	ne, neene, ngi

In that Namau is placed within Greenberg's ENG, it is surprising that only three forms are cognate with any of the nine other groups within ENG. However, this may simply reflect the remoteness of Namau to any group, even within the ENG. Brown's study (Chapter 8) is on the basis of an extensive lexical inventory and yet of the forty cognates (out of 1000 words) which he outlines between Namau and Eleman, none of Greenberg's three (*blood, to come, to eat*) are discussed. As Brown does indicate, however, the Namau have had considerable influence on the Elema and there are certain structural similarities between the two. To go beyond this and declare that Namau is in the IP Family along with Timor-Alor, Bougainville or the Highlands group of languages is based completely, and somewhat precariously, upon evidence of the sort given in Table 11.

9.5. The CNG Subfamily

What Wurm now calls the Trans-New Guinea Phylum (1972:49) includes some forty-four stock, 100 families and 422 languages. Earlier (1971: 547ff) Wurm referred to most of this as "the Central New Guinea Macro-Phylum", including the ENG Highlands Phylum, the Huon (Peninsula) Phylum,

the SENG Phylum, the WNG Highlands Phylum, potentially the Middle Sepik Phylum and Upper Sepik Phylum, as well as other assorted language families.

With one stroke Greenberg (p.835) combines many of these (and other) extremely distant groups into three branches of the CNG subfamily (or subgroup): the Kapauku-Babem, Highlands, and Huon. It should be noted, however, that the Sepik area is included instead in his NENG subfamily.

It is not surprising that out of 422 languages in one subfamily some of them would have words which are apparent cognates with languages of the other subfamilies. Even if Greenberg had access to but a fraction of this number, it is noteworthy that 48/84 of his common IP words are found in the CNG subgroup.

Rather than examine each of these in detail, we shall discuss members of his CNG that are also members of Wurm's West Central Family: Tsage (=Enga), Augu (=Mendi), Kewa, Sau and Samberigi (=Sau), in that we are most familiar with this area.

Greenberg lists eleven words that he considers cognate between the above WCF languages and the rest of his IP Family. We shall now discuss each of these:

(a) 5. *arrow*: telya (Tsaga). Usually the form elicited is *bow and arrow* and cognates within the WCF are forms such as yandaté (Enga), sendal ne (Mendi) or endali (E. Kewa). None of these correspond to other IP etyma.

(b) 9. *beautiful*: epe *good* (Tsaga); eve (Augu). The medial consonant is a bilabial fricative. The form always occurs with a *to be* verb, for example epe *ta it is good* (Kewa), where *ta* is derived from *la to speak*. This grammatical characteristic may be typologically of more importance than the form, but only the first form is given in other IP etyma. Wiru, probably of the WCF, uses epe teko.

(c) 20. *to dance*: mali *dancing, singing*, (Tsaga) is a cognate with the maali *festival* (Kewa) and mat (Mendi). *To dance* is mata pamba in W. Kewa, but often the expression includes a form cognate with Greenberg's etymon: mali lia (Huli), mali ni (Ipili).

(d) 25. *to eat*: ne (Tsaga), na (Kewa), nee *food* (Sau). The Sau form for *to eat* is also na, Enga is negé, Wiru is nakò. The -gé suffix in Enga marks a habitual aspect that is not conjugated for person in the singular (Lang 1970:124). The -ko in Wiru may represent a similar fossilized suffix (see also Chapter 4 of this book).

(e) 30. *fire*: te (*burn* (intransitive), Tsaga). The forms for *fire*/

tree/wood are identical in the WCF, but unrelated to the etyma proposed by Greenberg, unless *rila* (Mendi), *ira* (Huli), *itáte* (Enga), *itane* (Ipili), or *ti* (Sau), are cognates for *tree*, rather than *burn*. These forms are all also related to *ira lufi* in Fasu (also in Greenberg's CNG subfamily). On the other hand, there may be two series of cognates that Greenberg is combining: the forms *toe* (Wiru) and *tipe* (Medlpa, of Wurm's CF) have also been recorded by the present author. The Tsaga form which Greenberg cites is a verbal one and cognates in the WCF are *raa* (Kewa), *ta* (Sau), etc.

(f) 36. *hair*: *iri* (Samberigi, Angu, Kewa), *iri(gi)* (Sau). This form, meaning *hair/feather* is found in all members of the WCF. In Ipili, as well as Sau, the suffix reflecting a historical suffix in the Family, is found: *iriki* (Sau), *irini* (Ipili). This ending (probably * -ŋV) is also reflected in (j) below. I have commented upon it elsewhere (1968:20,41).

(g) 47. *louse*: *rema* (Tsaga, Samberigi). A cognate form is found also in most other members of WCF: *lema* (E. Kewa), *em* (Mendi), *emo* (Huli), *lemo* (Ipili), *læmæ* (Sau), and probably Wiru: *namo*. The forms Greenberg cites for languages in the Huon area appear to have some sort of fossilized suffix, generally * -ŋ

(h) 50. *meat*: *minc* (Tsaga), may at first be suspected as a loan from the Pidgin English: *mit* (*meat, flesh*, Mihalic 1971:36). It is also suspect as a borrowing, in that the Medlpa form is identical to the Kewa and Mendi ones, namely *mindî*. However, the Ipili: *mijuni* and Huli: *mbirini* forms with the probable * -ŋV reflected as -ni may indicate that this is not a borrowed form. Other probable cognates are: *mæenæ* (Sau), *melepu* (Wiru), and *maiya* (Fasu).

(i) 51. *moon*: *Kana* (Tsaga). The word is often tabooed in the WCF and this form has the cognate *ana* in Ipili (but also the unrelated word *kuate*). The more relevant cognates are *eke* (Kewa, Sau), *ek* (Mendi), *ege* (Huli), all related to the Fasu: *heke*. The Wiru form is *tokene*. The form *kana* means *stone* in Kewa and many of their languages of the family.

(j) 55. *nose*: *nine(gi)* (Sau). Similar forms are found in S. Kewa (*wili*) and S. Mendi (*wil*), but again this word has been a tabooed in many areas. The Wiru form is *timini*.

(k) 71. *star*: *bui* (Tsaga). More often the word is represented by a dual form such as *kumba kendo* (E. Kewa), *so sakumb* (Mendi), or *hombu lakæ* (Sau). The Medlpa form is *kombu kandue*. The Tsaga form may be due to word taboo.

Of the eleven words that Greenberg lists which represent the WCF only one (No.25. *to eat*) is a verb and, as mentioned previously, the cognates of this form are very widespread. Two words are body parts (No.35. *hair* and 55. *nose*), one is probably specific rather than generic (No.5. *arrow*), two represent cultural artifacts (No.20. *dance* and 30. *fire*), one is an adjective (No.9. *beautiful*), two are objects of nature (51. *moon* and 71. *star*), one may be a loan (51. *meat*) and the final word is No. 47. *louse*. Concerning these words, the author has found (Franklin 1968, 1972, forthcoming) that body parts and natural objects which are associated with special ceremonies are most often tabooed and have many variant forms among the Kewa. Nevertheless, the few such forms given by Greenberg compare well across the WCF. This, however, is not too surprising in that Greenberg's CNG subfamily displays so many cognates with CNG or other subfamilies, situated as it is with a vast geographical spread and represented by a large number of languages.

Greenberg's CNG subgroup again implied a genetic closeness that at present cannot be verified. The initial comparative studies done at different ends of the Highlands (Bee 1965, Kerr 1973, Healey 1964) do not demonstrate any such unity at present, although there are of course typological similarities between Highlands languages and NAN languages generally (Wurm 1971:587-8). It may be, however, that many of these are also present in Africa, or some other area. Typological features are surface features and as such reflect the deeper universal features with an infinite variety of forms. Consequently, they cannot be statistically correlated with any genetic closeness of language groups. Further, if 'mixed languages' are a reality (cf. Wurm 1972:23-6), between AN and NAN, the same phenomena must exist between the various groups of NAN.

Despite Greenberg's claims for an IP Family of languages, his postulated subfamily is by itself so diverse that its constituency cannot at present be considered genetically linked.

9.6. The UNG Subgroup

There are several languages which Greenberg comments upon (p.841) which he calls unclassified. These include, in the Gulf and adjacent areas, the following: Ondoro, Aurama, Huaruha, Mumeng I, Mumeng II, Gogodala, Williams River, and Tate.

Mumeng I and Mumeng II, as pointed out some time ago by Hooley (1964: 24 n., 247), are Austronesian languages. Greenberg has failed to

isolate these on the basis of the criteria proposed in his article (p.808-9). Rather he has followed Capell (1962, et sequa) in including these as NAN languages. Capell lists the Mumeng and Watut dialects of the Buang Family (Hooley 1970, forthcoming) as NAN languages. Greenberg thus cites several Austronesian forms in his common IP etyma.

Ondoro is a village in the Northern District (Dutton 1973:50, 57) where Managalasi is spoken. By virtue of his other groupings Greenberg should have placed Ondoro within the 'Koita' group of the ENG subfamily.

Aurama and Huaruha are closely related dialects of the Pawaian Family. MacDonald (Chapter 3 of this volume) has commented upon this apparent family level isolate.

Gogodala has been found by Voorhoeve (1970) to be related to Suki of the Lake Murray area. This would be within Greenberg's SWNG subfamily, in that Lake Murray is included in his 'Marind' group.

Williams River apparently refers to the area where the Gailalan Family of languages is spoken (Steinkraus and Pence 1964; see also Tauade in Dutton 1973). If so, it belongs, by virtue of Greenberg's other placements, in either his 'Afoa or Fuyuge' groups of his ENG subfamily. Note, however, the reference by Loukotka (1957:44) to a group he calls 'Kukukuku' on the Williams Creek.

This leaves only Tate of the Gulf District area. H. Brown has commented on its relationship to surrounding languages such as Toaripi and Austronesian languages to the east (Chapter 8 of this volume). In Table 12 the Tate words which Greenberg includes in his common IP etyma are compared with assumed cognates in other IP subfamilies.

Table 12

Common IP Etyma Found in Tate

Ref. of Gloss	18	25	29	62	74	= 5
AN	-	-	+	-	-	= 1
TA	+	+	-	+	-	= 3
HA	-	+	-	-	+	= 2
BB	-	-	+	-	-	= 1
BO	+	-	-	-	+	= 2
CM	-	-	-	-	-	= 0
TS	-	-	-	-	-	= 0
WNG	-	+	+	+	+	= 4
NNG	-	+	+	+	+	= 4
SWNG	+	+	-	-	-	= 2
SNG	+	+	-	-	+	= 3
CNG	+	+	-	+	+	= 4
NENG	+	-	-	+	+	= 3
ENG	+	+	+	+	+	= 5
UNG	-	+	-	-	+	= 2
No. of Groups Exhibiting IP Etymon	7	9	5	6	9	

Table 12 implies what is already known: Tate has borrowed from ENG, in particular from the Eleman language. For further proof of this note comments by Brown (Chapter 8) and Ray (in Strong 1911).

Table 13 examines those words which Greenberg lists as cognate with Tate in ENG, CNG, SNG, and SENG - the areas which are closest geographically.

Table 13

Cognates of Tate and Surrounding Groups

Gloss	Tate (UNG)	SWNG	SNG	CNG	ENG
18. <i>to come</i>	mane	man, mend	umon, muinane, mane	nem, mena, mindí	mana, mina
25. <i>to eat</i>	nove	ane, unin, en	noku, nina	na, nega	nai, nana
29. <i>finger nail</i>	faha	-	--	-	foka
62. <i>to see</i>	ini (<i>eye</i>)	-	--	ini, one	ini, ni
74. <i>stone</i>	mena (<i>hill</i>)	-	mene	Amuni, maar meneng, man	muni, umari

In summary, Tate, one of the languages which we suggest is unclassified elsewhere in this book (Chapters 7 and 8, but see also the language called Porome in Chapter 7) remains equally unclassifiable on the basis of any common IP etyma.

9.7. General Comments and Conclusions

Greenberg states (p.850) that 'a major point of agreement linking a whole series of groups both in and out of New Guinea is the expression of sex gender'. This is documented for the CNG group (basically the Highlands) by citing the forms *wanengk son* and *wanangk daughter* in Enga (his Tsaga), where the vowel differences of -e- versus -a- are said to reflect gender. The correct form for *daughter* is *wanegé* in Enga, and *wáne* is the correct form for *boy*. Greenberg's citation for *daughter* was probably a recording of *wanaku girl*. Although all of the forms show some sort of phonetic similarity there is no gender marker in the forms, nor in other languages of the same Family. In fact Wurm (1964:82) comments upon the complete absence of such a gender system in the Highlands Stock.

Greenberg did not have access, apparently, to materials which have been published dealing with broad syntactic patterns. His strong reliance upon the pronominal forms leads to conclusions which other grammatical evidence does not suggest. He does not, for example, comment upon such typological features as benefactive stems or affixes, the historical relationship of such affixes to Indirect Object markers, the variation

in imperative suffixes, the presence of aspect markers, nor other features which are crucial in the comparison of Highland languages in particular. He also omits any reference to Wurm's (1964) typological features of the Highland area, nor to specific studies which have compared Highland and non-Highland languages, such as that by Trefry (1969).

One aspect of Greenberg's hypothesis which we have not mentioned is his contention that languages of the 'Kukukuku' group (the Angan Family, see Lloyd's Chapter 2 of this volume) belong in the SWNG subgroup, specifically within the 'Marind-Ok' group. If this is the case then Maiheari (p.836) of his 'Binandere group' of the ENG should also be placed within the same group, as it is also definitely a 'Kukukuku' group language. In all fairness, however, it should be noted that Lloyd (personal communication) upon examining Greenberg's evidence notes some apparent lexical similarities between the Angan Family and languages of the SWNG subgroup. This may prove to be one of Greenberg's original, main contributions. Many of the words which are listed are body parts.

Greenberg's comparison of the Kukukuku and other Southwestern groups consists of Kapau (see Lloyd's Chapter 2) on the one hand and Metomka of the Ok group and Jaqai of the Marind group on the other hand. Lloyd has taken the ninety-eight words given by Voorhoeve (1971) on Yagay (=Jaqai) and the 128 words by Drabbe (1954) on Metomka and compared these carefully with his own Kapau materials. The possible cognates which he identified are listed on Table 14. In comparing Kapau and Jaqai for instance, he has note 6 apparently good cognates (marked as 1), 6 quite possible cognates (marked as 2), and 4 which are poor but not impossible (marked as 3).

Table 14

Possible Cognates Found in Kapau and SNG

English Gloss	Value	Kapau	Ja'ai	Metomka
<i>black</i>	2	tifa'a	otop	
<i>bone</i>	1(?)	yanga	ia	
<i>earth</i>	3(?)	goä	mokon	
<i>egg</i>	2	mnga	moka	
<i>eye</i>	3(?)	hingo	kind	
<i>fire</i>	1(?)	ta	reka	
<i>hair</i>	2	mta	taker	
<i>head</i>	2	mnga	muku	
<i>I</i>	3(?)	ni	anok	
<i>moon</i>	1	gämnga	nokok	
<i>nose</i>	1	hima	tamank	
<i>sago</i>	2	ipa	baj	
<i>stand</i>	1	tau	ira	
<i>sun</i>	2	mapa	tapak	
<i>tooth(mouth)</i>	1	mänga	manger	mongot
<i>lips</i>	2	me'a		meja
<i>ear</i>	1(?)	gata		kende
<i>breast</i>	2	ämnga		muk
<i>hand</i>	3	fe'a		mben
<i>eat</i>	2	n		anje
<i>shoulder</i>	1	hängó		kang(gondo)
<i>father</i>	2	äpo		ambe
<i>mother</i>	2	(ga)nä(i)		enang

This summary of Greenberg's classification as it relates to the Gulf area has been in general fairly negative. This is not intended to detract in any way from the magnitude of the task which Greenberg has undertaken. Most of the criticisms are directed toward the assumption which is implicit throughout the hypothesis: that the NAN languages found on the New Guinea mainland are all of a genetically common parentage, and their parentage is similar to that of the AN languages of the New Guinea mainland. The problem of pursuing such a thesis is

evident in the tangle of subclassifications and terms which Greenberg proposes. Thus he speaks of a major linguistic 'stock' (p.854), a 'super-group' (p.833), a 'single family' (p.807), a 'distinct subgroup' (p.816), 'large groupings' (p.819), and so on.

Finally, the problem of assessing the work is compounded by the paucity of the data cited. Out of the eighty-four words (= eighty, due to doublets) listed in the common IP etyma, thirty-three (or 39%) of them are found in Gulf languages. Of these words, however, eighteen of them (54%) are found in only one language or language family, so that it is impossible to cross compare them. Nine of the words are found in at least two languages or families, four are found in three families and so on at a diminishing rate, so the possibility of genuine cross-comparison is slight within the Gulf area as a whole. Greenberg may, of course, be correct and there may be an Indo-Pacific Family of languages which includes all the languages in the Gulf (and elsewhere). However, at present, we are still left with the practical problem of trying to determine if the linguistic label of Papuan means anything more than Non-Austronesian.

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Abbreviations are:

- AA = *American Anthropologist*
CTL8 = *Current Trends in Linguistics*, Volume 8 (Oceania)
OL = *Oceanic Linguistics*
PL = *Pacific Linguistics* (including Linguistic Circle of Canberra publications)
SHC = *Pacific Linguistics Studies in Honour of Arthur Capell*

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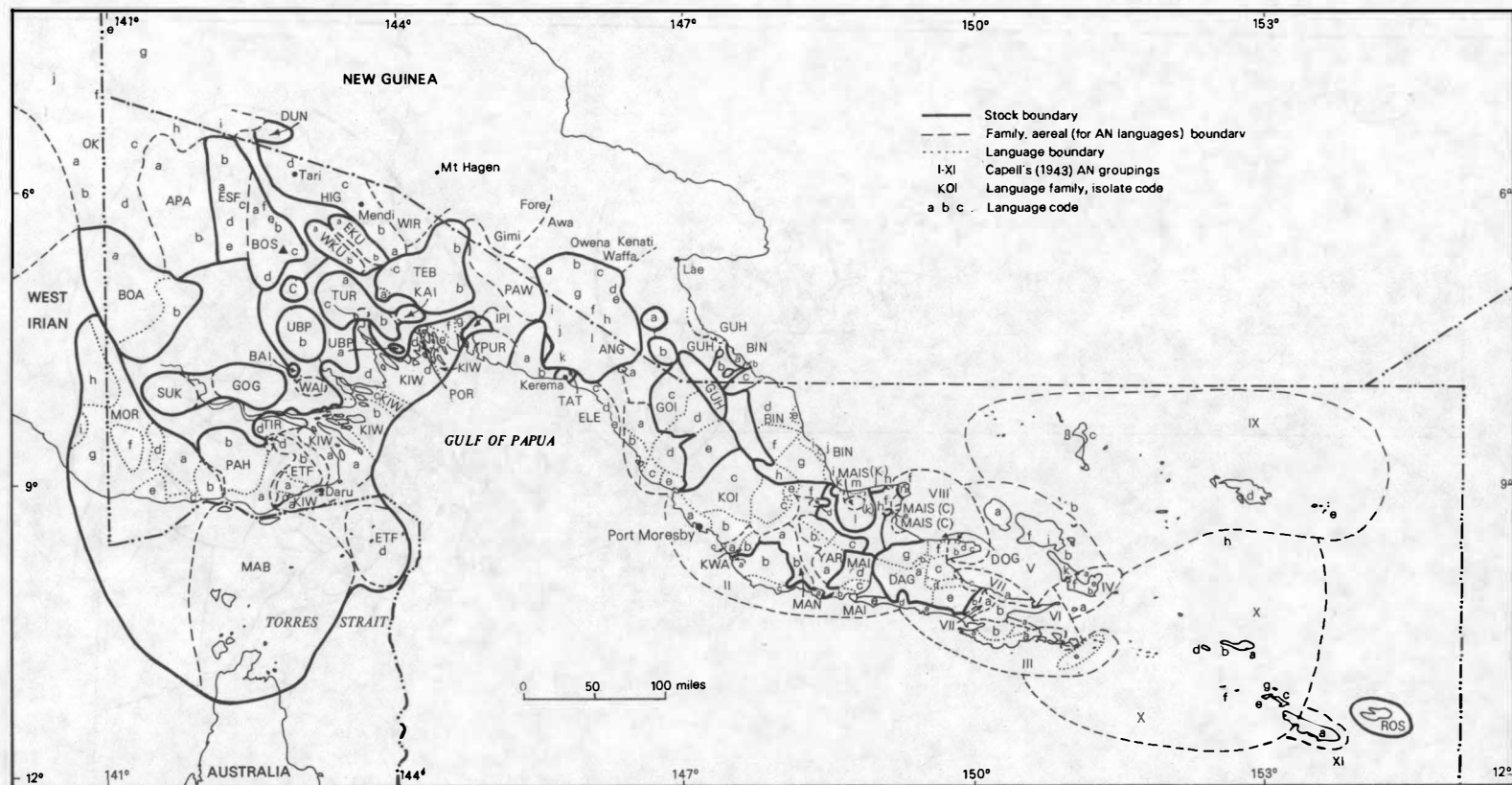
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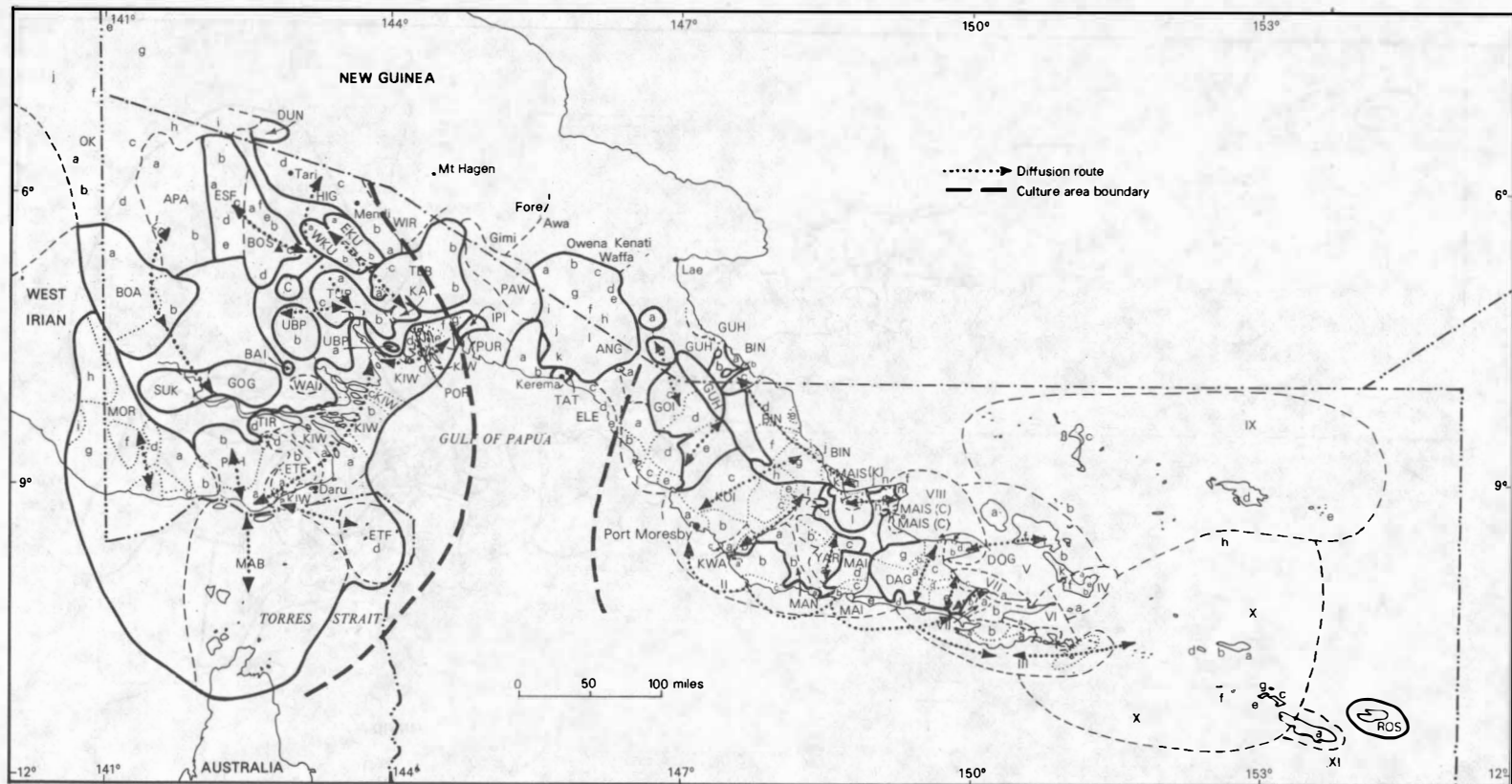
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CHAPTER 10



MAP 7: LINGUISTIC GROUPINGS IN PAPUA



MAP 8: CULTURE DIFFUSION AREAS IN PAPUA

"CULTURAL" ITEMS OF BASIC VOCABULARY IN THE GULF AND OTHER DISTRICTS OF PAPUA

Part 1: Foodstuffs and Associated Agricultural Terms

T.E. Dutton

10.0. Introduction

10.01. Aim

Basic vocabulary lists¹ generally used by linguists for language survey and classification work in Papua New Guinea usually include a number of what are known as "cultural" items. These are items which refer to such socio-economically important items of material culture as the common foodstuffs, garden terms, animals, stimulants, weapons, ornaments, art forms, items of clothing, and perhaps others.² They form a special subset within basic vocabulary lists because they are generally regarded as being "probably borrowed", and therefore to be

¹In this paper I shall assume that readers are familiar with the nature and use of basic vocabulary lists. For those who are not may I refer them to references and discussion in other chapters of this volume and especially to Laycock (1970) who gives a comparison of those frequently used for survey work in Papua New Guinea.

²Normally the decision to regard this or that item as "cultural" in this sense is based on linguistic and/or other criteria. For example, as will be indicated below, if it is known that certain foodstuffs are non-native to an area (as is the case of many of those discussed in this article) then it is highly likely that the names of those items will be transmitted along with the items themselves. However, this does not mean that the name always remains the same for other factors may intervene (e.g. word taboo) to change it thereby making the task of historical reconstruction more difficult.

treated especially carefully, if not excluded altogether, in calculating percentages of shared cognates between communalects as indices of genetic relationship between them.¹ Yet precisely because they are "probably borrowed" they are of particular interest as potentially important sources of historical information about contacts within and between languages and, eventually, about culture history.

In this paper I begin the study of the form and distribution of these items throughout languages of Papua New Guinea and elsewhere with a pilot study of a subset of them to see what sorts of conclusions can be drawn from the presently available material in languages throughout the Gulf and other districts of Papua.² As such the paper can only be regarded as exploratory and preliminary in nature though it is hoped it will provide useful guidelines for determining other more detailed ones later.

10.02. The Items

Five foodstuffs - sweet potato, taro, yam, banana, sugarcane - and two associated agricultural terms - garden and fence - are discussed in this paper. The first set represent the principal staples and/or supplementary food sources (depending on climate and excluding sago, terms for which have not been systematically elicited to date) throughout Papua.³ Of these sugarcane⁴ and bananas of the *Australimusa* group⁵ are thought to be indigenous of New Guinea, the others being introduced at various times - taro, yam and bananas prehistorically at a very early period from South-East Asia, and sweet potato very recently from Eastern

¹See again Laycock (1970) for a discussion of the problems associated with eliciting this kind of vocabulary and for comments on the reliability of individual items.

²The decision to restrict this paper to this area will of course mean that complete patterns of distribution may not be evident and that the full contribution of studies like this to arguments about pre-European agriculture, and the introduction of sweet potato in the central highlands of New Guinea in particular, (see for example Brookfield (1964), Brookfield and White (1968), Watson (1964a; 1967), and Sorensen (1972)) cannot be made. However I think it is justified in terms of the present volume and that Papua is sufficiently large to show up the main problems and results that can be expected in larger scale studies.

³See Lea (1970) and Lea and Ward (1970).

⁴See Warner (1962) and Wormsersley (1972a).

⁵See Powell (1970) and Brand (1971).

Indonesia where its appearance is thought to be associated with the arrival of the Portuguese in the sixteenth century.¹ Each of these foodstuffs comes in numerous horticultural and folk varieties² and, depending on area, most, if not all, are today cultivated in enclosed gardens protected from domestic and wild animals by some sort of barricade or "fence" of fallen logs, upright stakes, and/or plaited pitpit (*saccharum robustum*). Historically, however, the practice of gardening cannot yet be tied to any specific foodstuff. All that is known at present is that a technologically quite advanced system of gardening (compared with simple migratory shifting agriculture) was being practised in swamplands in the central highlands of New Guinea as far back as 2300 B.P., but it is not known whether this system was associated with the introduction of new crops.³ Consequently in examining the linguistic evidence we cannot assume that names for garden and fence were introduced in the same way as those of the principal foodstuffs sweet potato, taro, yam and banana, nor can we assume that introduced names will be retained or have the same referent through time⁴ - these are questions which can only be judged from the linguistic evidence itself.

¹See Barrau (1955, 1963, 1965), Brand (1971), Brookfield (1964), Brookfield and White (1968), Bulmer (1964), Golson (1972), Powell (1970), Sorenson (1972), Yen (1971, 1972), Watson (1964a, 1965, 1967), and Wormersley (1972a).

²See, for example, Williams (1928:116, fn.1), Sorenson (1972:358), Strathern (1969:193), and Brookfield (1964:21).

³See Golson (1972), Golson *et al.* (1967), and Powell (1970).

⁴In fact we know from other studies that name-switching between different varieties across languages and even between different genre within the same language is to be expected. See for example, Merrill (1946:221-27; 1937) and Chowning's (1963) study of Proto-Melanesian plant names in which (p.43, fn.3) it was pointed out that "taro is called completely separate names in garden spells and everyday useage...(and) that a Proto-Melanesian word for planted taro tops, *ufe is reflected in a number of Melanesian languages in which the words for taro itself are quite unrelated."

10.03. The Materials

Vernacular equivalents of the above items were obtained in as many languages throughout Papua as possible. Most were kindly supplied by linguists and others working in the area¹ and the remainder were obtained from written sources, notably dictionaries and early Government reports.² Except for a few cases the recorded forms are those obtained as part of basic vocabulary lists during brief contact with indigenous informants. Consequently each form must be taken to represent the currently most common term for each cultural item. More importantly no attempt was made to elicit names for different botanical or horticultural varieties (except for *yam* where forms for the two common varieties *dioscorea alata* and *dioscorea esculenta* were often elicited) or to record folk taxa, or to search for related forms in the languages being recorded. Thus there is considerable variation in both the quality and coverage of the materials employed with the result that there are likely to be significant 'holes' in the pattern of distribution of many of the apparent cognates.

10.04. Area and Languages

The area under consideration is inhabited by peoples speaking basically two distinct language types - Austronesian and Non-Austronesian (or Papuan), which are hereafter symbolized as AN and NAN respectively. The AN-speaking peoples are now to be found scattered around the coast east of Cape Possession and on the islands of the Milne Bay District, excluding Rossel Island in the far east, which is occupied by speakers of the NAN language, Yele. NAN speakers occupy the remainder (including Rossel Island just noted) which ranges from low-lying swampy deltas

¹I am deeply indebted to the following associates, members of the Summer Institute of Linguistics, friends and others for their assistance in this regard: Professor S.A. Wurm and Dr C.L. Voorhoeve of the Australian National University; Dr B. Egloff of the University of Toronto; Drs K. Franklin and K. McElhanon, Messrs D. Shaw, D. Lloyd, R. Dubert, R. Garland, M. Olsen, J. Austing, J. Parlier, J. Murane, H. Weimer, J. Farr, J. Henderson and Miss E. Geary of the Summer Institute of Linguistics; and Dr N. Thomson, United Church, Loupomu Island, Rev. Fr. A.C. Ashton, Eroro Anglican Mission Station, Mr G. MacDonald and Dr H.A. Brown, retired missionary, formerly of the London Missionary Society (now part of the United Church).

²See Brown (1968), Dutton (1969; 1970; 1971), Franklin (1968; 1971), Healey (n.d.), Lister-Truner and Clark (n.d.), Saville (1935), Voorhoeve (1970a; 1970b); Z'Graggen (1969) and English-Ubir Word List (n.d.).

around the Gulf of Papua through savannah grasslands and foothills up to the very mountainous central cordillera of the island. These people speak 160 languages, most of which belong to thirty-four families and eighteen stocks of the Trans-New Guinea Phylum which itself includes 62.15%¹ of all NAN languages of Papua New Guinea.²

The AN languages number about fifty including lingua franca, which are related to AN languages.³ These languages are closely related to one another and to the languages of most of the Pacific.⁴ They have been most thoroughly studied by Capell (1943; 1969) who groups them into eleven arealunits (hereafter referred to as areas I-XI) covering two structural subtypes, AN₁ and AN₂.⁵ Practically all of the AN languages of Papua are of the former subtype which differs from the latter in being phonologically and grammatically more akin to most NAN languages of south-eastern Papua. Only one group of AN languages in Papua belongs to the AN₂ subtype. This group includes Kiriwina, Gawa, Murua, and Nada and perhaps the language of the Amphlett Islands of area IX.⁶ The differences between and within these subtypes and their geographical distribution leads Capell to suggest that contemporary AN populations originated in various parts of the Indonesian archipelago and migrated into Papua in three main 'movements': I (from Borneo); II (from Central Celebes); III (from Java, Sumatra and the Malay Peninsula), where they came into contact with three prehistoric regional languages in Papua - North East Coast (NEC), South-Eastern (SE), and Central (C). It remains to be seen whether or how well, these postulated regional languages correspond with present-day NAN languages and language families in South-East Papua.⁷

¹See Wurm (1972:165).

²Excluded are six isolates and two unclassified languages. See Appendix B. For more details on the Trans-New Guinea Phylum see McElhannon and Voorhoeve (1970) and Wurm (1972).

³The exact number of AN languages is not yet known because of the existence of numerous dialect chains which have not yet been fully described.

⁴See, for example, Dyen (1965) and Capell (1969:17-25).

⁵See Capell (1943:5-7; and map p.8).

⁶See Capell (1969:126-28).

⁷In Dutton (1969:13) I noted that there appears to be little structural similarity between the Koiarian Language Family and Capell's (1943) Central Regional Language but that this does not necessarily negate his suggestion.

All languages are listed and codified in their areal divisions, stocks and families in Appendix B and displayed on Map 7. Phonological characteristics of the two types - AN and NAN - are sketched in Appendix A.

10.05. Method

Once the data were assembled for each item the vernacular equivalents were scanned and grouped into sets of apparent cognates in the following manner:

Two forms were regarded as apparently cognate if corresponding sounds in forms with the same meaning differed from one another in no more than one of the following respects:

- (a) for consonants: point and manner of articulation;
- (b) for vowels: tongue height and forward or back position.

An absence of a sound was counted as only one difference (provided the remainder of the form corresponded well with its counterpart) and such minor modifications of sounds as prenasalization, devoicing etc. were ignored. The rules were also relaxed for final syllables of words of more than two syllables.¹

Subsequently these sets were refined on the basis of observed similarities between sets in different items (or as I shall henceforth say, across item boundaries) and on the basis of my experience of the structures of the items.²

The application of these principles provided sets of forms which are all very similar but which must necessarily serve as a starting point for this kind of investigation until such times as more is known about sound laws in related languages of Papua.³ Any vernacular forms which did not seem to belong to any of the established probable cognate sets were listed together at the end of each item as "isolates".

¹This was done to avoid counting possible hidden suffixes and/or elicitation errors which are quite common on the ends of words because of the recorder's unfamiliarity with the language and/or the informant's unfamiliarity with the elicitation technique.

²For example, it soon became apparant that some forms were bi-morphemic although initially this was not evident from the way the forms are generally recorded. The first hints of this were found in those sets involving proto-Austronesian reflexes, and many such items were identified - see section 10.22.2. However, there are still many areas of uncertainty, e.g., see sweet potato: set 1 below (section 10.13.).

³The only sound laws that have been established so far are those for the Ok Family by Healey (1965). However, Voorhoeve (1970b) gives some notes on those in the Suki-Gogodala Stock as does Lloyd for Angan in Chapter 2 of this volume.

Having thus established apparent cognate sets and isolates for each item the sets were compared with reconstructions that have been established or proposed for some of the items for different parts of the Pacific by Capell (1943), Chowning (1963), Dempwolff (1934), Dyen and McFarland (1970), and Grace (1969).¹ The results of these comparisons are set out in the next section which contains all the evidence and notes necessary for the discussion that follows in the section 10.2.

10.06. Conventions

In setting out and discussing the results of this study the following conventions and procedures have been adopted.

All vernacular forms have been recorded as obtained from the sources where the transcriptions may vary from approximately phonetic to established phonemic. No attempt has been made to regularise these or to indicate their orthographic status in any way.

In the appendices these forms are listed on the left-hand side with language information on the right coded in the following way and according to the listing of languages given in Appendix B. Language isolates, unclassified languages and NAN language families are given in capitalised three or four letter abbreviations (e.g., KOI = Koiarian Language Family), while AN areas are given in capitalised roman numerals (e.g., III = AN area three). All languages are coded in small, single letters and separated from the language family (or areal unit for AN languages) to which they belong by a slash, thus /, e.g., KOI/a = the language 'a' of the Koiarian Language Family, i.e., the Koita language. Dialects are coded in small roman numerals following the language code, KOI/bii = dialect 'ii' of language 'b' of the Koiarian Language Family, i.e., the western dialect of the Koiari language of the Koiarian Language Family, or for areas where this information is not available "tribal" or village names are given in brackets, e.g. Tur/Dugeme = the Dugeme 'tribe' of the Turama-Omatian Family. The only exceptions to this are the two dialects of Maisin which are coded MAIS(C) and MAIS(K) for the coastal and inland (or Kosirava) dialects respectively. Other more general conventions,

¹The actual status of these forms, i.e., established versus proposed or suggested, is not crucial to this study; they merely provide useful summaries of data found in the Pacific against which the items in this study can be compared.

including some already mentioned are:

KOI	code for language families, isolates, and unclassified languages (see Appendix B)
I-XI	code for AN language areas (see section 10.04. and Appendix B)
b	code for language name (see Appendix B)
ii	code for dialect (see Appendix B)
/	separates language and dialect code from language family code
, or /	(elsewhere) separates alternative cognate forms; or
-	(probable) bound morpheme boundary
major set	cognate sets distributed over a wide area and across major linguistic boundaries (see section 10.21.)
minor set	cognate sets distributed within member languages of the same stock or over neighbouring languages not necessarily of the same stock (see section 10.21.)
isolates	cognates not belonging to any cognate set and limited to one language (see sections 10.05. and 10.21.)
[]	(in cognate sets) distinguishes the marked (or special) case from the unmarked (or normally elicited) case, e.g. in the lists for 'yam' square brackets are used to distinguish the sweet yam (d. <i>esculenta</i> or <i>taitu</i> in Hiri or (Police) Motu from the more generally elicited ordinaty yam (d. <i>alata</i> , or <i>maho</i> in Motu).
PAN	Proto-AN, a general term
*	Established or proposed reconstruction (see section 10.05.). Wherever particular forms are quoted these will be followed by the source reference as follows: MN-Chowning; EB (and others)-Grace; PAN-Dempwolff; PAN-Dyen; IN-Capell (see section 10.05.)
PN	Polynesian

10.1. RESULTS: Cognate Sets Per Item

10.11. Garden

1. moro ¹	KIW/b	dzuwari	} KOI/d
muro	MAN/a,b	dzuwai	
bua	BIN/a	dzuru	
buro	BIN/e,1,j,k,l,m	dzaure	
pure	BIN/f,g,h,	dzura ² a	KOI/f111
baburo ²	BIN/i	ware	BIN/n
isiaburo ³	BIN/m	buru	KOI/bi,ci,cii,ciii,cv
kopura ⁴	} VII/c	bu:	GOI/e (karukaru)
kupura		vu:	KOI/civ
upura		mu:	} KOI/e
kofura	} DAG/d	mue	
ne ⁵ ufurana		forova oti	ELE/b,c
dzuwore ⁶	KOI/f1	oru(uta) ⁷	ELE/c
dzuwora	KOI/f111	faura	TAT
		vo.ore	KWA/a

¹Cf. related forms in fence: sets 4 and 16; sweet potato: set 10; yam: set 4; taro: set 38.

²ba-. Cf. taro: set 2.

³Cf. isia forms in sweet potato: set 10 and taro: set 13. Note that the word for sweet potato in BIN/m is, however, kaire utua or kairu kuta - see sweet potato: set 3.

⁴ko-, ku-, u-. Cf. similar forms in, or discussion relating to: fence: sets 1,2,3c, 4,6, and taro: set 14, which in turn are related to so-, sa-, a- forms found in garden: set 6, sweet potato: set 2, and taro: sets 7,14,16, and eventually to kau forms found in sweet potato: set 6 and yam: set 2. Cf. also the common initial element ko-, ngko-, ke-, ka-, go-, nggo-, ngga-, oka- in the following given by Watson (1968:273) for *Pureraia lobata* and '(edible) tubers' in languages of the central highlands of New Guinea:

Term	Gloss	Location or Language
kórono	<i>Pureraia lobata</i>	Enga-Mendi
ngga-oka-	<i>tuber, swollen storage root</i>	Medlpa-Kakoli
okəmapəmp, okəmoi	<i>Pureraia lobata</i>	Medlpa
góruma-nggóduma	<i>Pureraia lobata</i>	Chimbu dialects
kohena	<i>Pureraia lobata</i>	"near Goroka"
kenangi, kagomba	<i>Pureraia lobata</i>	Watabung
ngko-ko-	<i>edible tuber (?)</i>	Kainantu languages
kópitu, etc.	<i>cultivated Pureraia lobata</i>	Kainantu language
ngkó ² hi		

Strathern (1969:189 et passim) points out that ok is a primary taxonomic order on the same level as me taro and op yam which includes sweet potato, *pueraria lobata*, and other related vines in Medlpa but notes (p.193) that "oka mapumb (*pueraria*) may be contrasted with oka ingk (true oka, i.e., sweet potato) or with oka alone, which, when unqualified, always refers to sweet potato".

If all these are related to kaukau, a common form for sweet potato throughout many languages of the Pacific it must have spread very rapidly throughout Papua New Guinea and its impact on cultures in all corners of Papua is evident from the variety of present-day forms in which it is involved.

Garden

⁵Cf. related forms in garden: set 2 below.

⁶The dzu- element in these forms is probably related to lovi which appears in Central Papua as both garden (q.v. set 2) and yam (q.v. Isolates).

⁷For related sets to uta see fence: set 1, sweet potato: set 3 and yam: set 10.

2.	e	EKU/a
	e gelo ¹	BOS/b
	igenai	BOS/c
	e	HIG/a
	ee (<i>greens</i>) ²	HIG/b
	emaapu	HIG/b
	e (<i>greens</i>)	HIG/d
	ē	HIG/d
	ei dabu ³	POR
	egada	GOG
	iga	SUK
	ege	PAH/a
	gedup	ETF/d
	sega	II/bv,bvi,bvii, bviii,bxvi
	nē ufurana ⁴	DAG/d
	egak	DAG/a11
	ē ba?a ⁵	II/Yoba

¹These forms suggest that they derive from something like *(n)te ± other forms which at some time probably specified the particular type of garden. Evidence for this can be seen in the e gelo and igenai forms which have relatives in present-day words for sweet potato (q.v. set 2), taro (q.v. set 21), and yam (q.v. set 13) in other languages of Papua. Reflexes of *(n)te are widely distributed in two main areas of Papua - an arc connecting the Southern Highlands and the Trans-Fly via the Turama River and a small area of the south coast of Papua including AN and NAN languages.

²In Kewa (=HIG/b) emaapu refers to a new, that is, productive garden while ee refers to a garden which is old, that is, one with only *greens* in it. For maapu see set 3 below.

³dabu. Perhaps related to yapu and similar forms given in sugarcane: set 4.

⁴This form appears to be made up of at least two elements: u- and fura related to forms discussed in footnotes 4 and 1 of set 1 above respectively.

⁵ba?a. See set 3 below.

3. <u>emaapu</u> ¹	HIG/b
<u>ma</u> ² a	I/f
<u>eba</u> ² a	II/Yoba
<u>map</u> (<i>vegetable</i>)	HIG/c
<u>batimapo</u> ²	KIW/d11
<u>batimabu</u>	KIW/d111
<u>sopapo</u> ³	ETF/b
<u>homehabo</u> (<i>banana</i>)	ESF/a
<u>apa</u>	MAB
<u>aba</u>	II/c1x
<u>ava</u>	II/cvii
<u>watihuai</u>	KIW/d11
<u>hemo</u>	WKU/a
<u>hemu</u>	WKU/c

¹The common element here shows a number of variants widely distributed in western and south-eastern Papua. Since these variants are found in both NAN and AN languages they must represent borrowings in one or the other though without further evidence it is not possible to decide which is the borrower. Irrespective of that, however, the distribution of these elements raises interesting questions about the contact between NAN and AN languages across the Gulf of Papua which will be discussed further in section 10.2.3. Finally, judging by the *emaapu* and *homehabo* examples these variants seem to derive from some descriptive element which refers to the contents of gardens. Cf. footnotes 1 and 2 to set 2 above.

²*bati-*, *wati-*. No apparant cognates have yet been located in the materials presently available.

³*so-*. See footnotes 4 to set 1 above.

4. <u>kaie</u> ¹	BOA/a
<u>kae</u>	BOA/a11, a111
<u>raveaka</u>	BOA/b1
<u>ravaka</u>	BOA/b11
<u>gaihyo</u>	IPI

¹These forms occur in two widely separated areas of western Papua - one (represented by BOA) around Lake Murray in the west and one (represented by IPI) in the heel of the Gulf of Papua.

5. <u>madava</u> ¹	MAI/e (except i11, vii, viii)
<u>masau</u>	VIII/e
<u>masava</u>	VIII/f1
<u>masawa</u>	VIII/f111
<u>mado</u>	II/d
<u>nada</u>	KWA/b

Garden

¹These forms occur in both AN and NAN languages of south-east Papua and therefore must represent borrowings in one or the other, though on present evidence it is not possible to decide which is the borrower.

- | | | |
|----|----------------------------|-------|
| 6. | kukop ¹ | MOR/c |
| | gogosu | UBF/a |
| | kogau (<i>root crop</i>) | ESF/a |

¹These three forms occur in widely separated areas of western Papua. They may be bimorphemic, e.g. ku-, ko-, go- (see footnote 4 to set 1 above) and kop, gosu, gau possibly related to sweet potato: set 6 and others.

- | | | |
|----|-------------------|---------|
| 7. | ilai ¹ | DAG |
| | elai | DAG/e11 |
| | harai | YAR/d |

¹These forms occur in neighbouring NAN language families of south-east Papua.

- | | | |
|----|-------------------|-------|
| 8. | ɔwe: ¹ | TIR/b |
| | owa | DAG/f |

¹These two forms occur in widely separated NAN language families - one (TIR) around the mouth of the Fly River in western Papua and the other in south-east Papua.

- | | | |
|----|------------------|-------------|
| 9. | uma ¹ | II/a,bx; PM |
| | umo | KIW/c |

¹These two forms are reflexes of *quma *garden* (OC-Grace) or (h)uma *garden* (IN-Capell). The occurrence of related forms in NAN and AN languages of western and south-east Papua parallels that of other sets of forms in this data. In this case, however, umo must represent a borrowing into KIW/c from some AN source. See discussion in section 10.2.

10.	meru ¹	MOR/1
	mer	MOR/h
	berar	MOR/g
	pərih	TIR/a
	pari	KIW/ai11,c
	pa ⁷ ea	KIW/ei11
	meni }	
	peni }	PAW
	məroi }	

¹One of the few sets with cognates in Pawaian (PAW).

11.	lovi ¹	KOI/ci11
	<u>yo</u>	KOI/di1
	<u>yosi⁷a</u>	
	<u>dzusi⁷a</u> }	KOI/fi1
	<u>dzuasa</u>	KOI/f1
	<u>dzuwari</u> }	KOI/d
	<u>dzuwai</u>	
	<u>dzuru</u>	
	<u>dzaure</u>	
	<u>dzuwore</u>	KOI/f1
	<u>dzura⁷a</u> }	KOI/fi11
	<u>dzuwora</u>	

¹lovi. Also = *yam* in KOI/cii. Cf. *yam*: Isolates.

12.	ye ⁷ ye	KOI/a,b11
	ve:	KOI/b11
	he:	
	e:	
	e ⁷ e	KOI/cv1
	i ⁷ a	KOI/e

13.	mea ⁷	MAI/a
	mea	MAI/b
	meia	
	mɛya	MAI/c1
	peaka	MAI/d
	beaka u ⁷ ara	YAR/a

14.	kwamɪŋga	ANG/1
	wawɪnya	ANG/b
	wamgana	ANG/k
	wamna	ANG/g
	wamnga	ANG/l
	wangwa	ANG/f

Garden

- | | | |
|-----|--------------------------|--------------------------|
| 15. | ndau
ṇaṇ | MOR/a,b,e
ETF/c |
| 16. | dou(a)
topa
doba | MAI/ci
YAR/a
YAR/b |
| 17. | *xü }
*xu
*yaküp | AWY/a-d
AWY/e-f |
| 18. | *yoǵ
*loǵ | OK/a-d
OK/e-1 |
| 19. | sunu
hono | TUR/b
KAI |
| 20. | upi ¹
tupi | DAG/c
DAG/d |

¹Reflexes of *huvi *yam* (MN-Chowning) and similar reconstructed forms given in *yam*: set 10. See discussion in section 10.2.

- | | | |
|-----|---|--|
| 21. | araya ¹
yadaṇa
ara
araa | II/bi,bii,bxvii,ciii
II/bv
II/ci
II/civ |
|-----|---|--|

¹Cf. fence: set 3a.

- | | | |
|-----|--------------------------|----------------------|
| 22. | ·ulahi }
ulai
iula | II/Labu
II/cv,cvi |
| 23. | əlobada
eowa | I/e
X/d |
| 24. | begati | MAIS; VIII/e |

25. nao DAG/a1,a11,b,g
26. kurio KIW/g,f
27. amara¹ DAG/f;DOG

¹Cf. sweet potato: set 9; yam: set 25.

Isolates

davito	UBP/b	ifuabi	BOS/a
gi	TEB/a	iky(woi)	BOS/b
guto	TEB/b	ko.oto	GOI/d
dido	TEB/c	iapa	MAI/e111,v11
odubo }	ELE/a	ibaga	MAI/ev111
oruhu }		tako	II/Bina
yawelei	GOI/a	nuku	III/a11
gadini	WAI/(ex-English)	gana ²	III/a11
avas1 }	GOI/c	sipi	VII/b
adas1 }		itam	VIII/b
in-daiga	GOI/d	regai	VIII/c
digaba	MAI/a	vamoka	II/b111
ewo	MAI/ex11	waia ³	YAR/a,c
yabotərə	ROS/a	goi }	MAI/c11
beda	GOG	goe	
ye1yo1	TIR/d	umuge? }	ANG/j
aluaupi	ETF/a	umge?	
ba:n1	MOR/d	yawa1si	BIN/1 (Korala)
narake	MOR/f		

¹Cf. sweet potato: Isolates; taro: set 16.

²Cf. fence: set 3d.

³Cf. yam: set 16.

Fence

10.12. Fence

1. a) $\begin{matrix} \text{uta}^1 \\ \text{uda} \\ \text{kh}^{\text{h}}\text{t}^{\text{h}}\text{h}^{\text{h}}\text{e}^{\text{h}}\text{r} \\ \text{kota} \\ \text{?oha} \\ \text{fota} \end{matrix}$ $\begin{matrix} \text{BOA/a,b} \\ \text{PAH/a} \\ \text{MAN/a} \\ \text{MAN/b} \\ \text{DAG/b} \end{matrix}$
- b) $\begin{matrix} \text{tak}^{\text{h}} \\ \text{ta} \\ \text{*daam} \end{matrix}$ $\begin{matrix} \text{TIR/b} \\ \text{GOG} \\ \text{OK(PMO)} \end{matrix}$

¹This is a problematical set. If subset (b) is regarded as related to subset (a) then there appears to be a case for arguing that the forms in subset (a) (and similar forms in sweet potato: set 3 and yam: set 10) are bi-morphemic i.e., they consist of some ko-like element (Cf. footnote 4 to garden: set 1) plus some ta- like element corresponding to that in subset (b). If subset (b) is not regarded as related to subset (a) then there is no problem.

Distributionally subset (b) forms fall together with the uta, uda (BOA/a,b) and kh^ht^hh^he^hr (PAH/a) forms of subset (b) in a group around the Fly River of western Papua. The remaining members of subset (a) are to be found in south-east Papua where they occur in two well separated NAN language families.

2. $\begin{matrix} \text{anop}^1 \\ \text{?ona} \\ \text{gonā?a} \\ \text{gonaa?aa} \\ \text{onāga} \\ \text{hōhōnu} \\ \text{gy} \\ \text{une?} \end{matrix}$ $\begin{matrix} \text{DAG/c (Kanamara)} \\ \text{DAG/d} \\ \text{DAG/ei} \\ \text{ANG/l} \\ \text{DAG/f} \\ \text{YAR/d} \\ \text{TEB/b,c} \\ \text{ANG/j} \end{matrix}$

¹Another problematical set with the initial syllables suspiciously like the ko- forms already referred to in footnote 4 of garden: set 1 above. Distributionally the variants fall into four areal subsets which are very widely separated. One of the few sets which shows connections between the Angan and other languages.

3. a) $\begin{matrix} \text{gara}^1 \\ \text{kar} \\ \text{yala} \\ \text{yara} \\ \text{gaya} \\ \text{gaea} \\ \text{bolibo} \\ \text{kara} \end{matrix}$ $\begin{matrix} \text{KIW/e111; IPI; KOI/c; DOG; VIII/e} \\ \text{ETF/d; MAB} \\ \text{KOI/a} \\ \text{II/b111, bv} \\ \text{MAI/a} \\ \text{ESF/a} \\ \text{KIW/a, b, c; ETF/a, b; KAI; POR; WAI} \end{matrix}$

- | | | |
|-------|------------------------------|---|
| 3. b) | arak ^{he} | MOR/a |
| | arak | MOR/b,c |
| | ara } | KIW/c,d,f,g;TUR/a;PM;II/a,bv111 |
| | ala | I/e |
| | arana | |
| 3. c) | koro | ELE/a |
| | kora | ELE/c |
| | oro | YAR/a |
| | <u>gogola</u> ² | II/Bina |
| | <u>orabo</u> | MAI/e(111,v11,v111,1x) |
| | <u>anihora</u> | GOI/c |
| 3. d) | gana | II/a,b1,b11,bv11,bxv11,Labu,Magori;III/a11;
VII/b;X/d;DAG/a11;MAI/e (except 111,v11,
v111,1x) |
| | kana | II/c1,c111,c1v,cv,cv1,cv11,c1x |
| | gana (<i>arm/leg band</i>) | II/a |

¹This set is taken as consisting of four related subsets 3a,b,c, and d although there is some doubt about the relationship of subsets b,c and d to a. This doubt arises principally from Capell's (1943:163/a) suggestion that the ara-type forms are related to pala fence in Indonesian (and by extension to the reconstructed form *mpaa fence given by Grace (1969)) for which he quotes the evidence of bala fence in Keapara (=II/b) and ni-aʔ fence in Atchin, although he notes that reflexes are "rare and rather irregular". But there are several arguments against this suggestion. One is that p/b in Keapara do not usually correspond to Ø in the closely related Motu and Sinagoro of the same. Another is that corresponding sets of kara, kora, and ara-type forms are found in very distant NAN languages of New Guinea. Consider, for example, the following from NAN languages of West Irian (kindly supplied by Dr C.L. Voorhoeve): kar, har (Madang Phylum), kor (Sause), kor (Uria), ar (Mawes), erä (Tanah Merah), ärä (Sentani-West), ele (Sentani-Midden), älä (Sentani-Oost), ärä (Nafri). Finally, better correspondences for pala are to be found in the wara, varaba, obara etc. given in set 4 below.

Thus the evidence seems to point to sets 3a,b and c being continuations of a single protoform which was something like kara and perhaps NAN in origin. Whether subset 3d forms represent continuations of this also is doubtful but will be regarded as so for present purposes.

Distribution-wise members of subsets 3a and 3b pattern into eastern and western branches separated by a gap around the Gulf of Papua. They are to be found scattered around the coast but with some members inland up the Turama River and in related languages of the Torres Straits. The eastern branch members occur in South-east Papua scattered around the coast and the immediate hinterland. Members of subset 3c on the other hand are to be found scattered along the south coast between the Gulf of Papua and Mailu Island. That is, they fill the gap separating the members of the two areal branches of subsets 3a and 3b so that there is a continuous distribution of cognates between east and west. Subset 3d forms are locally distributed in neighbouring NAN and AN languages of south-east Papua and are in complimentary distribution with the other subsets.

²go-. Cf. garden: set 1, footnote 4.

Fence

4.	<u>obara</u> ^{1,2}	KWA/c (extinct)
	<u>xambaro</u>	BIN/h
	<u>bala</u>	II/c
	wara	KIW/e11; KOI/b
	<u>varaba</u> }	MAI/b, c
	<u>waraba</u> }	VIII/b
	porotuto <u>varanue</u>	

¹Reflexes of *mpaa fence (EB-Grace) - see footnote to set 3 above. The variants are widely but sporadically distributed. Most are to be found in south-east Papua in NAN languages but one, wara, occurs rather interestingly in western Papua amid kara-like forms regarded as non-cognate (see set 3a above) in neighbouring dialects of Urama-Gope (KIW/e).

²o-, xa-. Cf. ko- discussed in footnote 4 to garden: set 1 above.

5. a)	<u>vero</u> ¹ }	KOI/d1, f1
	verε?ε }	
	<u>veru</u> }	KOI/d11
	<u>yeru</u> }	
	be:ra	KOI/f11
	veire	KOI/f111
	<u>vabele</u> ²	KWA/a
	<u>yabili</u>	KWA/b
	<u>fabe</u>	TEB/c
	<u>faε</u>	KOI/d1
	<u>mafe</u>	EKU/a
	<u>mafi</u>	WKU/c
	<u>pape</u>	HIG/a
	<u>paape</u>	HIG/b
	<u>ili</u>	BOS/b
	pe:r	TIR/a
	pari	ETF/a
	berar	MOR/g
5. b)	<u>naport</u>	ANG/h
	bore	KOI/e
	<u>bolibo</u> tigala	ESF/a
5. c)	<u>benali</u>	PAW
	<u>peni ariloi</u> }	
	<u>xarida</u>	GOI/e
	<u>gari</u>	DAG/c, e1; VII/c
	<u>gariwan</u>	DAG/e11
	<u>keri</u> (zi)	MAIS
	keri	VIII/e

¹These forms cluster into three subsets which are quite consistent within themselves. The connection between them, however, depends on a vowel change from i/e to o/a and a consonant change from b/p to k/g. In each variants cluster again into eastern and western areal subdivisions, linked, if the subsets are really related, by sporadic occurrences in inland languages along the central mountains inland of the Gulf of Papua (notably ANG/n and PAW).

²va-, ya-, fa-, ma-, pa-. Probably *taro*. Cf. *taro*: set 2.

- | | | |
|----|---------------------|--------|
| 6. | reidza ¹ | KOI/di |
| | redza | KOI/e |
| | kurita ² | ANG/b |

¹One of the few items showing cognates in Angan (ANG) languages.

²ku-. Cf. footnote 4 to garden: set 1.

- | | | |
|----|--------------------------|---------|
| 7. | <u>puya</u> ¹ | BIN/i,k |
| | <u>puga</u> | |
| | <u>ofua</u> | BIN/m |
| | <u>opua</u> | |
| | <u>youka</u> | BIN/l |
| | <u>wouka</u> | |
| | mbwa | ROS |

¹One of the few items showing cognates in the Rossel Island (ROS) language.

- | | | |
|----|-------------------|---------|
| 8. | *kuk | OK(PLO) |
| | <u>kokiau</u> ?u | BAI |
| 9. | lova ¹ | ELE/c |
| | dova | YAR/c |
| | doa | MAI/d |

¹One of the few items showing cognates from the Gulf of Papua (ELE). Cf. *yam*: Isolates fn.4.

- | | | |
|-----|---------------------|-------|
| 10. | tatale ¹ | UBP/b |
| | tasa | ANG/e |

¹One of the few items showing cognates in Angan (ANG) languages.

Fence

11. magu¹ PM;TUR/b

¹The occurrence of this form in TUR/b in western Papua probably represents a borrowing from Hiri (or Police) Motu or an elicitation error involving the same language.

12. tin } DAG/a
 sin }
 tsin } DAG/b
 ti } DAG/g
 isi }
13. *wuut/T OK(PLO)
 *watü OK(PMO)
14. rot MOR/e,f
 ruod MOR/1
15. temerA } GOI/c
 tamio }
 lememek GOI/a
 domeve GOI/d
16. furu¹ VIII/f1;BIN/m
 fuř VIII/f11,f111
 furo BIN/m

¹Cf. garden: set 1.

Isolates

- | | |
|--------|---------------|
| ripa | DAG/c |
| nabia | MAN/b (Uder1) |
| kigeta | MOR/h |
| ludu | WKU/a |
| kepo | HIG/b |
| leleha | I/f |
| daba | II/bv1 |
| au | II/bxv1 |
| mayata | II/bx |

10.13. Sweet Potato

1. mosela ¹	YAR/a11(Sth);II/bv1,bv11
mosera	YAR/a(Nth);b,c;BIN/1;MAN/b;MAI/c
mosara	MAN/a
mohöre	MAI/a
modele	MAI/c11;II/Bina
ava ² mohe	KWA/b
kaua mose	KWA/a
motera	II/bxv1
motea	II/c1
mote	II/c111
mose	II/b1,b11,b111
moseyo	II/bx
mokela	II/civ,cv,cv11,cix

¹A very consistent set of forms found in neighbouring NAN and AN languages of south-east Papua although there is no suggestion of the direction of spread. Possibly bimorphic; Cf. mo- banana: set 9, taro: set 4 and kela/sela: sweet potato: set 2, taro: set 21, yam: set 13.

²ava-, kaua-. Cf. sweet potato: set 6 below.

2. gero ¹	BIN/a
kirutua	KOI/f1
irui	KAI
kɛloto }	KOI/f111
kilotə }	
akira }	EKU/a
agira }	

¹Cf. related forms in garden: set 2; taro: set 21 and yam: set 13. Here variants are scattered over a wide area from the highlands of western Papua to coastal central Papua in no particular pattern.

3. kali ¹	TEB/a	kaele }	DAG/d,e1,e11,f
gali	TEB/b	kaire }	
ga	IPI	kaire kuta	MAIS(C)
ale	HIG/c (N.Mendi)	kairu kuta	BIN/m
sali	PAW	kaire tuta	BIN/m
kaire	DOG;VII/b	kiru kuta	BIN/n
kaire kut ²	VIII/e	baire	DAG/ai(Gwedede),b,c
kairekut }		baere	DAG/c
kaire kuta	VIII/f1,i1,i11	bairen	DAG/c,g

¹Reflexes of *kale taro (MN-Chowning), with relatives in taro: set 25 and yam: set 6. Distributionally and formally they divide into two groups, viz. a kali subset in western Papua and a kaire subset in south-eastern Papua.

²kuta. Cf. yam: set 10.

Sweet Potato

4.	kanua ¹	YAR/a(Sth);DAG/a11,a1;MAI/e
	kanu	DAG/a1
	kanua	MAI/b,c1,d,e111,eix
	kænua	MAI/e11
	konwai	GOI/c
	kanu-a	MAI/c
	karude	DAG/h
	kanua	II/Labu,Yoba,Magori;III/a11,avi11
	kanuma	VII/b

¹A very consistent set of forms found in neighbouring NAN and AN languages of central and south-east Papua. Probably NAN in origin.

5.	nekoka ¹ }	KOI/f11
	takoko	
	takokwa	KOI/f1
	sokose	TUR/Omat1
	tokose	TUR/Dugeme
	kokose	TUR/Karima
	nakorori	POR

¹Widely separated forms occurring in western (TUR;POR) and central Papua.

6.	(h)aukava ¹	KOI/a
	aukapa }	ELE/a
	aukapo	
	aukeva	ELE/Unspecified
	kauari }	ELE/c
	aukara	
	ukava	I/a
	kaua mose	KWA/a
	ava mohe	KWA/b
	hawani	TAT

¹There is sufficient variation in these forms to suggest that they are derived from a common element kau (Cf. yam: set 2) and descriptive elements kava (undoubtedly related to Motu (=II/a) kava *mad*, *crazed*, *silly* which is also found in the name of at least one other foodstuff in Motu, viz. taitu kava (from taitu *sweet yam*)), mose, mohe (Cf. set 1 above), and ani (probably a reflex of *kani *to eat*, *food* (OC(EB)-Grace)) cf. taro: set 7, yam: set 19, and banana: set 31. One of the few sets containing cognates from languages around the Gulf of Papua.

7.	<u>hina</u> ¹	HIG/d
	hiña	DUN
	se: no	KOI/cii (Boridi), ciii
	ina	KOI/bi, bii
	inaso	KWA/b
	<u>iniveyu</u> ²	KOI/a (East)
	<u>inueli</u>	KOI/a (East)
	<u>iniveu</u>	I/e
	<u>inieuda</u> }	

¹Distributionally these forms fall into two subsets: a small one in the Mountains of the Southern Highlands (HIG/d, DUN) and a larger one in neighbouring languages around Port Moresby. The latter subset apparently consists of two elements: (s)ina + veu, veyu, ueli, so of which the first three of the latter are probably related to Koiari (=KOI/b) veu *quickly*. Similar forms to (s)ina also appear as yam (q.v. set 11) in neighbouring NAN languages of south-east Papua.

²veura = *quickly* in Koiari (KOI/b). But cf. sweet potato: set 11, yam: set 41 and yam: Isolates.

8.	<u>ʌnge</u> ¹	BIN/h
	ana	BIN/d
	tana	DAG/a1
	tanaba	DAG/c

¹Cf. the following related forms from the central highlands of New Guinea: *angwe* sweet potato in Hewa, and *àngá* sweet potato in Wahgi.

9.	<u>kumwala</u> ¹	III/c; V/o;
	komwara	V/b
	kumuara	V/d, k;
	kumala	VI/bvi
	kumara	KOI/bii
	kamara	KIW/e111
	amareta	ETF/b
	ambara }	GOI/c
	biro	
	thambara	BIN/g
	tambara	BIN/e, 1
	kevara	MAN/a
	evara	KOI/dii

¹Related to kumara (and similar forms) *sweet potato* found throughout Polynesia. For example, Ray (1907:168) gives: "kumala, *sweet potato* (*Ipomoea Chrysorrhiza*).... Tongan gumala, Marquesas Is. kumaa, Banks Is., Fiji, and New Zealand kumara". Cf. also garden: set 27 and yam: set 25.

Sweet Potato

10.	siyofulu ¹	ESF/a
	siyafuu	ESF/b
	siyobulu	ESF/e
	siyabul	ESF/d
	siapuru }	BOS/a,b,c; WKU/a
	siabulu }	
	siyabulu	BOS/a
	siapuri	BAI
	supuru	WKU/a
	tia	HIG/a
	dia	TEB/c
	diani	TUR/Barika

¹A very interesting set with relatives in many languages of West Irian. Cf. the following kindly supplied by Dr C.L. Voorhoeve: sesiayuro (Iria (NAN)- west side of Kamarau Bay), sersiabura (Asienará (NAN)- west side of Kamarau Bay), sie, slbu (Iha (NAN)-eastern side of MacCluer Gulf), sijapido (Inanwatan (NAN)-western side of MacCluer Gulf), siäp (Borái (AN)- north-western side of Geelvink Bay) and others. Cf. also garden: set 1 (buru); fence: sets 4 and 16 (buru); yam: set 4 (buru); taro: set 38 (buru); garden: set 1 (isia); taro: set 13 (isia).

11.	kupe ¹	GOI/d
	kupe	GOI/e(Karukaru)
	kupe	GOI/d
	kupa	GOI/d,e
	<u>gobe</u> ?u ²	KOI/ci
	<u>kobe</u> ?u	KOI/ci
	<u>gobou</u>	KOI/ci(Eava)
	<u>gobeu</u>	KOI/ci1
	<u>kubea</u>	KOI/ci11
	<u>gobeu</u>	KOI/b,civ,cv,cv1
	<u>kobe</u> ?a	KOI/b
	<u>gobe</u> ?u	KOI/di1
	<u>hope</u> ?a }	ANG/ 1
	<u>hobe</u> a }	

¹Reflexes of *huvi yam (MN-Chowning) and other similar reconstructed forms given in yam: set 7. See also relatives in garden: set 20, taro: Isolates, banana: set 7.

²e?u, ε?u, e?a. Cf. yam: set 41, Isolates and sweet potato: set 7.

Sweet Potato

12.	wabayur ¹	MOR/g
	wopowi	MOR/i
	wasa	ANG/a
	wapaaya	ANG/b
	zapaaya	ANG/c
	mpaaya	ANG/d
	waahape	ANG/e
	mpwaya	ANG/f
	wopa	ANG/g
	napai?	ANG/h

¹One of the few sets containing cognates in Angan (ANG) languages. Cf. yam: set 20.

13.	nori ¹	KIW/a1,a11,b,c,d11,d111,g;TUR (Pepeha)
	n̄ri	TIR/a
	ori	TUR(Karam1)
	nuri	ETF/d
	nai	TIR/d;MOR/a,b,c,d,e
	nae	PAH/a

¹A small set of forms found only in western Papua in most member languages of the Trans-Fly Stock and neighbouring languages of the Turama Family.

14.	faiya ¹	WKU/c;TUR/Ikobi
-----	--------------------	-----------------

¹Cf. waia, waisa, yam: set 16.

15.	khonɛ ¹	BIN/n
	khonɛ	MAIS
	khoni	KWA/a;KOI/b11
	kuni	MAN/a
	koni }	I/b
	kauni }	
	ʔono	I/d
	kone	I/f
	koniparau ²	II/b

¹These forms group into two areal subsets in south-east Papua: one around Cape Nelson on the north coast and one around Port Moresby on the south. No direction of spread is evident however. Cf. honi taro (q.v. Isolates).

²Parau. No apparant cognates so far located.

Sweet Potato

- | | | |
|-----|--------------------|-----------------------------|
| 16. | kaima ¹ | GOG |
| | kaimba | BOA/a111 |
| | kaima | UBP/a;WAI;YAR/d |
| | kaema | I/b,c;II/a,b111,bv,bv1,bv11 |
| | kaema ta'a | |

¹A very consistent set of forms scattered right across Papua in isolated groups of languages. However, as kaema is the Hiri (or Police) form used for elicitation purposes in survey work it is possible that this scatter results from elicitation errors or represents a pattern of borrowing from Hiri Motu. Needs checking.

- | | | |
|-----|---------------------|-----------|
| 17. | pedede ¹ | V/f |
| | kedede | V/b,i,e,t |
| | pedede | ROS |

¹One of the few sets showing contact between Yele (the NAN language of Rossel Island) and AN languages of Papua.

- | | | |
|-----|---|--|
| 18. | kambek }
kampekyang
kaump
kampekyang | GOI/a
GOI/b
GOI/d |
| 19. | suai
subume
seprum | APA/a
APA/b
APA/c |
| 20. | karo:pi
kəroyɛnɔ
waropi
toroopu
urugana
urugabau | KIW/e11
TIR/b
KIW/e11
KIW/a11
ETF/c
MAB |
| 21. | ubuzubudsa
ipounaro
iwioquo | ETF/a
KIW/b
KIW/a111 |
| 22. | *waan
*wan | OK(PMO)
OK(PLO) |

Sweet Potato

23.	biaka	V/a
	bedaka	V/m
	baika	V/n
	beiyaka	V/s
24.	sapi	HIG/b
	sa:pi	HIG/c
25.	mondo	HIG/b(East)
	modo	WIR

Isolates

adar ¹	
atari }	GOI/c
a dari	
adang	
*bo(n)te	OK(PLO)
diani	TUR/Barika
mamusi	KOI/f1
meine	MOR/f
nel	ETF/b
phuth eitel	ROS
susuano	UBP/b
yuku	BOG
yo:uto	ROS
konwai	GOI/c
mao ²	PUR
mekoi	I/a
gogolin	IX/a
lome	V/p
ladagu	VIII/b
?o?opu	I/f
simsimwai	IX/c
peyapeya	VIII/c
gegeulina	X/a
yariro	X/c
?sayas	XII/a
watsap	XII/b
gogie/koki ³	KOI/e
ku:tazi ⁴	MAIS(K)

¹Also given as *taro*, q.v. set 16.

²Reflex of *mao *taro*. (MN-Chowning) and *ηmao *taro* (OMA-Grace). See notes to yam: set 3.

³Also occurs as *taro*, q.v. set 27.

⁴Cf. sweet potato: set 3 above.

Taro

10.14. Taro

1. me ¹	WKU/a
mber	MOR/i
bed	MOR/h
<u>tebele</u>	MAI/e
pere	TUR/c
firi	TUR/Dugeme
meli	POR
mi	TUR/Bariba
mea	TUR/Karima

¹Cf. similar forms in yam: set 1, fence: set 5, garden: set 13 and also the following kindly supplied by Dr K.J. Franklin from NAN languages of the central highlands of New Guinea: mi (Wahgi), mé (Nii), mə (Kobon), me (Chuave), mē (Golin), mé (Salt Ini). A similar form mē also occurs in the Madang area (Z'Graggen (1969:57,67)).

2. mai ¹	HIG/a
<u>maa</u>	HIG/b
ma	HIG/d
mafi	MAN/a
ma	BIN/c,d
ba	BIN/d,e,f,g,h,i,j
<u>wadu/vadu</u>	KOI/a,bi,bii
<u>madu</u>	KOI/di,dii
eloma <u>du</u>	KOI/di
maku	KOI/e
ha?u	MAI/a
ma	BIN/a
baxa	BIN/i

¹Cf. related forms in garden: set 1, f.n.2; fence: set 5, f.n.2, and following kindly supplied by Dr K.J. Franklin from NAN languages of the central highlands of New Guinea: maa (Enga), maiyáamba (Auyana - for (y)áamba cf. set 4 below), mainai (Lembena), mafó (Siane), masí (Gahuku), masa (Asaro), ama (Benabena). The following related forms also occur in NAN languages of the Madang area (Z'Graggen (1969:57,129)): ma, mamu, mam, mom, moma.

3. mi ¹	WIR
minə	KOI/di
mina	YAR/a11(Sth),c
miki	KAI

¹A scattered group occurring in NAN languages of western and south-eastern Papua.

4. yom ¹	MOR/c
q	TEB/a,c
omu/omo	PAW
ombo	KOI/f1
omo/?omo	MAI/c1,c11
mu:m	TIR/a

¹One of the few sets containing cognates from Pawaian (PAW) inland of the Gulf of Papua. Cf. also (y)áám̐ba in maiyáám̐ba taro (Auyana) referred to in footnote 1 of set 2 above.

5. lologube ¹	ETF/a
orp̐uo	TUR(Karami)
vɔ̃r̐	ETF/b
holwa	ESF/a
ho	ESF/b
hou	ESF/d
hou	BOS/a
ulotabasi	BOS/b
huwa	APA/b
hogama	WAI

¹A widely scattered group in western Papua.

6. ipan/ipam ¹	HIG/c
ban	MAI/b,c1,c11,d
panine/bani	MAN/b
bani	MAN/b;YAR/a;MAI/c
kibani	DAG/a11;II/d;III/a11

¹Formally this set falls into two subsets - those which have retained ki- and those which have lost it. The distribution of these forms is interesting in that the ki-subset occurs in the highlands of the north-west corner of Papua (HIG/c) and again in neighbouring AN and NAN languages of south-east Papua alongside languages which have lost ki-. A similar distribution is to be seen in set 14 below. Relatives appear as words for *yam* in languages of the same area - see *yam*: set 8. Cf. also *pane*¹ taro in Hewa from the central Highlands of New Guinea.

Taro

7.	kani/?ani ¹	VII/c
	sagani	KIW/dii,diii
	tagani ²	KIW/f
	ganisa	ANG/g
	?ani	DAG/d
	?an	DAG/ei
	an	DAG/eii
	aneg	ETF/d
	anega	KIW/aiii

¹Reflexes of *kani *to eat, food* (OC(EB)-Grace). Related forms are to be found in yam: set 19 and banana: set 31. One of the few sets containing cognates from Angan (ANG) languages.

²sa-, ta-. See footnote 4 to garden: set 1.

8.	ta ¹	DUN
	saso	KIW/a,a11,b
	nago	KIW/a,c;TUR(Pepehe)
	hago	KIW/c
	dafu	TUR/d

¹Cf. related forms in yam: set 12 and banana: set 8.

9.	bibi	GOG
	bipi	BAI
	dibi	IPI
10.	ture ¹	KIW/eii,eiii
	ture:	KIW/g
	duŋə	MOR/e
	tsuphu	MOR/f
	ule	DAG/g
	huli	V/1
	uli	IX/c
	?uli	V/1

¹Another set showing a connection between western and south-east Papua. Loss of t suggests a west-east movement.

11.	noha ¹	KOI/f1
	noa	TAT
	noho/nohΛ	KOI/f11
	nouhə/nohu	KOI/f111
	ʔono	MAN/a

¹One of the few sets containing cognates from Tate (TAT) in the Gulf of Papua.

12.	mude ¹	KWA/a,b
	mudie	MAN/a
	munde	GOI/e
	muʔa	KOI/c1
	buwaʔa	KWA/c
	munde	GOI/e
	mude	II/b111,bv

¹Possibly related to mote and similar forms for *sweet potato* given in sweet potato: set 1.

13.	isia ¹	BIN/k,l,m,n
	yisiya	BIN/n
	gesi	DOG
	sisi	II/Labu
	diyas	ESF/c
	iya	KOI/c11

¹Cf. relatives in garden: set 1, and sweet potato: set 10.

14.	tika ¹	ANG/a
	eka	EKU/a

¹One of the few sets containing cognates in Angan (ANG) languages.

15.	udi ¹	PAW;UBP/a
-----	------------------	-----------

¹One of the few sets containing cognates in Pawaian (PAW).

Taro

16. atari¹ GOI/c
 dariq TEB/b

¹Cf. relatives in garden: Isolates and sweet potato: Isolates.

17. fadia¹ KOI/c11
 fadia KOI/c1v
 vadia KOI/cv
 adi DAG/d
 wasi? VIII/e
 vai VIII/f1
 wax VIII/f11, f111

¹Locally distributed in AN and NAN languages of south-east Papua. No obvious direction of spread.

18. nai DAG/f
 nwai YAR/d
19. giafani BOS/b
 iyafane EKU/a
20. taibu BOS/a
 tab DAG/b
21. kera¹ KIW/a11
 elomadu KOI/d1
 kero VIII/b
 keru VIII/c

¹Cf. relatives in garden: set 2, sweet potato: set 2, and yam: set 13.

22. kaata ANG/b
 ko?o ANG/e
 gaawa ANG/f
 kaat ANG/h
 naaweri ANG/k
 gaawa ANG/l
 gwaama ANG/c
 kwaava ANG/d
 kwam APA/a
 hwam APA/c

23. taro¹ HIG/a;PM;I/b;II/a,biii
 alo ETF/c

¹Reflexes of *tales (PAN-Dyen;Capell), *talo (MN-Chowning), *ntalo(s) (OC(EB))-Grace), and *talət (PAN-Dempwolff). In Papua cognates occur in NAN languages of western Papua (viz. HIG, ETF) and in three AN languages of central Papua, including the lingua franca Hiri (or Police) Motu. This distribution should be treated carefully therefore since some or all of the forms may be elicitation errors or represent borrowings from this lingua franca. Capell (1943:147-267) notes that related forms occur in Indonesian languages "though not all for the taro plant".

24. ekwat DAG/g
 gikwa V/w
 bikwa V/g
25. kare¹ MAN/a
 kale II/bi,bii,bvi,bvii,bviii,bxvi;II/ci,ciii
 kae BIN/g;II/bx
 ?ale II/civ

¹Reflexes of *kale taro (MN-Chowning). Cognates distributed throughout AN and NAN languages in central Papua. Related forms also occur as sweet potato: set 3 and yam: set 6.

26. ubeya TIR/b
 beiya TIR/d
 piyaŋ MOR/d
 wiba (?) MAB
27. kokia¹ BOA/a11,b1,bii
 kokia BOA/a111
 kokea }

¹Cf. sweet potato: Isolates.

28. poera ELE/a
 ho?ero ELE/c
 soera }
 omera PUR

Taro

- | | | |
|-----|---------------------------------------|---------------------------------------|
| 29. | otot
tʌtʰkʌp | PAH/a
MOR/a |
| 30. | tovwiaa?
towia?
tauwie? | ANG/1
ANG/j
ANG/j |
| 31. | *yamen
*yemën | OK PLO)
OK(PMO) |
| 32. | nagut
natu
naguda
namu | DAG/a1,a11
DAG/c
DAG/c
DAG/c |
| 33. | kabu
gavu | MAN/b
MAN/b(Uder1) |
| 34. | ukava ¹
aʔava
ʔaʔara | I/a
I/f
I/f |

¹Cf. related forms in sweet potato: set 6 and yam: set 2.

- | | | |
|-----|--------------------------|-----------------------------|
| 35. | oʔou
hoboʔo | I/a
I/b |
| 36. | daidai
deidei | V/a
V/m |
| 37. | we.da
weda
pwea | III/c
V/b,o,p,u,r
V/f |
| 38. | oiu ¹
boro | II/Bina
V/b |

¹Cf. related forms in garden: set 1, fence: sets 4 and 16, sweet potato: set 10, and yam: set 4.

39. kopare¹ } BOS/c
 kobaeri }
 saparo } WKU/a
 saparu } WKU/c

¹ko-, sa-. See garden: set 1, f.n.4.

40. keu(keu) II/cv,cvi,cvii,cix
 kweu V/s

Isolates

tenta	MOR/g	rileda	I/e
purari	UBP/a	mavu	VII/b
kimol	GOI/b	sinasin	IX/d
hemara	GOI/c	koiaho	II/Yoba
hu:si	KOI/ciii	waupio	V/k
kokoda	KOI/cvi	dudu	V/d
masuku	BOG	bubu	XI/a
maradi	KOI/di(Emo)	wusi	X/c
mage	KOI/e	bau	I/d
kumona	MAIS	ngeba/ngapamek	GOI/a
kukuni	MAIS(Kos)	xeʔe/xeʔe	KOI/ci
kukun	MAIS(Cos) VIII/e	tamin	DAG/g
kəʔə	ROS	nat(a)	DAG/h
dədə	MAI/eii,exi	yawa	X/a
burena	I/e	kuve	} ¹ GOI/d
(k)udo	III/a11,av111	kuvalava	
ʔouf	XII/b	kubu	
maura	V/t	goin	MAB
ilu	I/c	honi ²	VI/bvi

¹Reflex of *huvi yam (MN-Chowning) and similar reconstructed forms given in yam: set 10, q.v.

²Cf. sweet potato: set 15.

10.15. Yam

1. ere ¹	DUN;HIG/d
erawo	KIW/a11
yirau	TIR/a
ɛrau [^]	TIR/b
keri ^{si}	WKU/c
feri	TUR/a
efare	ELE/c
mbira	HIG/b
mbere	HIG/c
beli	PAW
[ilawa]	MAI/a
pe ^ɔ ai	GOI/d
obiri	MAI/e11,e111,ex11
obi ^{li}	DAG/a11
wabi ^l	MAI/c1,c11
wabi ⁿ	MAI/a,b
bai ^ʔ e	DAG/g
[papi]	MOR/d
[opeti]	GOI/d
[wabi-i]	MAI/c
wabi ^{ri}	II/Labu
obi ^{ri}	III/a11
vabu ^{li}	II/b1,b11,b111,bv1,bv11,bxv1
[waburi]	II/bv,bv111,bx

¹Cf. relatives in garden: set 13, fence: set 15, and taro: set 1.

2. kau ¹	YAR/a11(Sth),c
ka ^ʔ u	MAN/b;MAI/d;YAR/a,b,c
xa ^ʔ u	YAR/a
kau-u	MAI/c
u-a	MAI/c
uware	BIN/i
uare	BIN/c
uwawia	Bin/d
[aula]	YAR/a11(Sth)
[au-ula]	MAI/c
au	ANG/h
lauwikmek	GOI/a
lawikyeikmek	GOI/a
[lawikwizimek]	GOI/a
[aumai]	GOI/c
[tau ^ʔ era]	MAN/b
[^ʔ aura]	YAR/a
[awura]	YAR/b
iau	DAG/g

¹Cf. relatives in sweet potato: set 6, and comments on ko- in garden: set 1, f.n.4.

- | | | |
|----|------------------|---|
| 3. | mao ¹ | BOA/a111;II/bv |
| | maho | KIW/d111,e11,e111;UBP/a;IPI;KWA/a;PM;II/a |
| | ma'ou | KIW/g |
| | mau | BIN/e |
| | [maho] | KWA/a,MAI/b |
| | [maho'uro] | KWA/b |
| | ma.o | II/b |

¹Reflexes of *mao taro (MN-Chowning) and *ŋmao taro (OMA-Grace). Cognates distributed throughout AN and NAN languages of south-east Papua and NAN languages of western Papua.

- | | | |
|----|---------------------|--------------|
| 4. | buŕkhu ¹ | ETF/c |
| | borometa | ETF/d |
| | bolu | TEB/a |
| | [bolu'ʌ] | KOI/c |
| | [bɔlukʌ] | KOI/c11 |
| | [boluka] | KOI/c111,civ |
| | bapore | ELE/a |
| | mapore | ELE/a,c |
| | maperi | TAT |
| | [amboro] | BIN/h |
| | [kamboro] | BIN/1,k |
| | [hopoi] | GOI/c |
| | [boTai] | DAG/a11,e1 |
| | [bola'i] | DAG/e1 |

¹Cf. relatives in garden: set 1, fence: sets 4 and 16, sweet potato: set 10, and taro: set 38.

- | | | |
|----|--------------------|-------|
| 5. | aneni ¹ | POR |
| | [anivi] | KIW/f |
| | ane | KAI |
| | aine | GOI/e |
| | ana | BIN/e |
| | angi | BIN/f |

¹These forms occur in two widely separated areas - one in western and one in central and south-east Papua.

6.	galiyo ¹	ESF/a
	gəyo	ESF/b
	gali	ESF/c,d
	kara	BOS/a
	kaaliya	BOS/a
	[yare]	KOI/d11
	kae	BIN/g
	gae	BIN/i

¹Reflexes of *kale taro (MN-Chowning). Cf. relatives in sweet potato: set 3 and taro: set 25.

7.	ʔuvi ¹	VII/c
	kubi	VIII/c
	kuv	IX/d
	ubi	DOG

¹Reflexes of *huvi (MN-Chowning), *qupi (OC-Grace), *qubi[ʔh] (PAN-Dyen), *ʔubi (PAN-Dempwolff) *yam*. Relatives also in sweet potato: set 11, taro: Isolates, garden: set 20, and banana: set 7.

8.	bani ¹	MAN/b
	[bani]	MAN/b; DAG/b
	[banai/banae]	DAG/a1,g

¹Cf. relatives in taro: set 6.

9.	sukunu ¹	TUR/b
	sɯkan(u)	TUR/c
	sɯŋsɯŋ	MAIS(C)
	susuni	MAIS(K)
	soʔo roi	PAW

¹A doubtful set but one of the few containing representatives from Pawaian (PAW).

10. kuta¹ DAG/h;BIN/n;MAIS(C)
 koroma kuta BIN/n
 ?ua MAI/ci,c11,e11,e111
 oru uta (*garden*) ELE/c
 ut/uta? VIII/e,f11
 uta VIII/f1
 ua III/a11

¹Cf. relatives in sweet potato: set 3.

11. sina¹ KOI/a
 asĩ GOI/e(karukaru)
 sanaru KOI/d1
 [sanaru] KOI/d11
 [sin kau]² YAR/c
 [sini] YAR/c
 kini ROS

¹Cf. relatives in sweet potato: set 7.

²kau. Cf. sweet potato: set 6 and yam: set 2.

12. sagu¹ MAB
 hago KOI/b1
 sago KOI/b1,b11
 wagoro DAG/f

¹Cf. relatives in taro: set 8 and banana: set 8.

13. keru¹ VIII/b
elo sivelĩ KOI/d1
 iro KOI/d1,d11
 kiroma MAN/a
 ilo YAR/d
 [iro] KOI/d
 [iroma] MAN/b(Uder1)

¹Cf. relatives in garden: set 2, sweet potato: set 2, and taro: set 21.

14.	kaitu ¹	PUR
	[haihu]	MAN/a
	saisu	MAN/a
	[hæhu]	MAN/b
	[taitu]	PM
	haihu	I/b
	taʔa	I/b
	taʔa haihu	I/b
	kaio	I/d
	kaiku	I/f
	[kaiku]	I/f
	[taitu]	II/a
	kaui	II/ci
	taiuʔŋ	X/d

¹Cognates in the NAN languages suspicious loans or elicitation errors from Hiri (or olice) Motu, the principal lingua franca and survey language of Papua.

15.	suai ¹	APA/a
	swai	APA/b
	suʔa	ETF/b

¹A particularly doubtful set.

16.	waisa ¹	GOG;BAI
	[waia]	KOI/a,b1,b11
	[waiagu]	KOI/ci(Eava)
	[waiaka]	KOI/f11

¹Cognates distributed in western (BAI) and central Papua.

17.	umamo ¹	KIW/a1,c
	umamu	KIW/c,d11
	hamano	EKU/a

¹Another particularly doubtful set.

18. [komba]¹ DAG/h;BIN/n
 kombi MAIS(K)
 ko:mba/komba BIN/l,m
 koroma kuta² BIN/n
 [gumoi] KOI/cvi
 [gomote] KOI/fi
 [komba sini]³ }
 [sini komba] } BIN/l

¹A small but interesting set related to the following given by Watson (1968) for *Pueraria lobata* in parts of the central Highlands of New Guinea: kagomba (Watabung, west of Goroka), goruma, ngonduma (Chimbu).

²kuta. Cf. yam: set 10.

³sini. Cf. yam: set 11.

19. aniani¹ V/f
 yani II/cv,v1,1x
 gani III/cvii
 kanikani V/q
 anemai I/a
 narem III/a11
sagani KIW/d11

¹Reflexes of *kani *food, to eat* (OC(EB)-Grace). Cf. relatives in taro: set 7 and banana: set 31.

20. wabahu¹ KOI/b1
 abau KOI/b1
 yabahu KOI/b11
 habahu KOI/b11
 xaba KOI/c11,civ
 haba KOI/c111
 aba KOI/cv,cvi

¹Cf. relatives in sweet potato: set 12.

21. ahadza KOI/f11
 ahadzε KOI/f1
 hoedze KOI/f111
 hoaidze KOI/f111
 [howΛ] GOI/e(Karukaru)
 [badza] KOI/d1
 [vadziaku] KOI/e
 [vadziæge] KOI/e
 [wadziΛŋga] KOI/f111
 [wadzΛŋga] KOI/f111

Yam

22. *wan¹ OK(PLO)
 *waan OK(PMO)

¹Cf. the following kindly supplied by Dr K.J. Franklin from NAN languages of the central highlands of New Guinea: hòn Golin, hòn Salt-Ini, fonth Kobon, wan Maring, nandi Binumaria.

23. gasa¹ BIN/a
 gaso(u) BIN/i,n

¹Cf. the following kindly supplied by Dr K.J. Franklin from NAN languages of the central highlands of New Guinea: gasa Asaro, gasi Gahuku, ká Siane.

24. dzuka BIN/k
 dzoyukuta BIN/n

25. gumala¹ KWA/c
 kuvara MAN/b
 [umana] KWA/a
 gubara MAN/b

¹Cf. relatives in sweet potato: set 9.

26. hohomi KWA/a
 [hohomi] KWA/a

27. timbe MOR/e
 dambaj MOR/f

28. wε.m MOR/a
 wεm MOR/b

29. malapta ANG/a
 malata ANG/b

30. lwie ETF/a
 lewer ETF/d

- | | | |
|-----|---|---|
| 31. | aavava
haagwa
aakwasa
tangwa?
taanggwe?
taungwe?
save
hankuinka
hanguininka | ANG/d
ANG/f
ANG/g
ANG/i
ANG/j
ANG/j
ANG/k
ANG/l
ANG/l |
| 32. | opuo
ohunaro
unaro | KIW/a111
KIW/b
KIW/b |
| 33. | kwateya
kwatea
e?a
kwakiki
wate.ya | III/c
V/b,u
V/d
V/n
V/o |
| 34. | kabub
[kabub]
[kabu] | VIII/f11
VIII/e
VIII/f1 |
| 35. | kokoiyo
kokoya | I/f
VII/b |
| 36. | abuaga
?abwaga | V/1
V/1 |
| 37. | dahe
ra | X/c
X/d |
| 38. | dawa
[dawa] | II/bv11,v
II/av1,v11 |
| 39. | malowapa
malawapa | II/c1,i11
II/c1v |
| 40. | a
a?a | V/m
V/s |

Yam

41. [iʔu]¹ MAI/d;YAR/a(Sth)
[eʔu] YAR/d

¹Cf. sweet potato: sets 7 and 11, and yam: Isolates.

42. neka(?) DAG/c
neke DAG/d
niʔa DAG/e1,e11,f

Isolates

abage	APA/b
doiti,loite,doite	GOI/d
gami	ANG/c
ya:mo	HIG/a
pam	DAG/a1,a11,bx,c(Kanamara)
[dabu]	KOI/a
[du]	KIW/a
[posi]	DAG/d
[gigide]	BIN/l
[kakanda]	BIN/m
[abu]	DOG
dedze	KOI/e(Asapa)
kie	KOI/e(Namanadza)
naba	KWA/b
gegae	PAH/a
gabau	MAB
ketapu	EKU/a
mingane	MOR/c
hazi	MOR/d
hiagato	WKU/a
lovi ¹	KOI/c11
aleve	KOI/civ
ario	KOI/d1
[arie]	KOI/d1
angebe	BIN/h
arago	KOI/c1
lama	I/a
kapara ²	II/Yoba
apci	III/avi1
bebai	V/b,k,p,r
kaula	IX/c
veʔu ³	I/c
idiu	II/Bina
lova ⁴	II/d
wamu	V/a
kcida	VI/bv1
modara	VII/c
anan	X/a

Isolates

tuwu	XI/a
xemb	XII/a
kinare	V/t
[imoda]	I/e
[nona]	VII/b
[wireka]	VII/c
[posika]	VII/c
[bibibi]	VIII/f111
[nen]	XII/a
bureda }	I/e
burena }	
[posika]	VII/c
zong }	GOI/c
zorA	
manigo	TEB/b

¹lovi. Cf. garden: set 11.

²Could perhaps be included in yam: set 25.

³Cf. sweet potato: set 7, f.n.2.

⁴Cf. fence: set 9.

Banana

10.16. Banana

1.	napet ¹	BOA/a11
	napeti	BOA/a111
	nepet	BOA/a111
	napete	BOA/b1,b11
	napet	MOR/1
	napero	UBP/a;PAW
	napeto	IPI
	napewa	TUR(Pepeha)

¹Widely distributed in western Papua but with representatives in languages inland of the Gulf of Papua (viz. IPI and PAW). One of the few sets with cognates in Pawaian (PAW).

2.	sela ¹	ETF/b
	teya	MOR/g
	tae	MOR/h
	se	ANG/e
	hyely+	ANG/g
	teri }	GOI/c
	?eri }	
	perai }	GOI/d
	pelei }	

¹One of the few sets with cognates in Angan (ANG) languages.

3.	madaea ¹	KIW/a11
	masei	BAI
	malae	EKU/a
	imara	TUR/(Karam1)
	make?i	KOI/f111

¹This set widely distributed in western Papua with one cognate also in central Papua.

4.	kure ¹	ANG/b
	ori	POR
	ure	KIW/a11,a111
	hura	BIN/d
	kunu	TUR/d,Dugeme
	kqnu	TUR/c,Karima

¹One of the few sets with cognates in Angan (ANG) languages. Remainder of cognates distributed in central and western Papua.

5.	toro ¹	BOS/c
	oru	ELE/c
	oru	YAR/d
	tə	TEB/a

¹One of the few sets with cognates in Elemen (ELE) languages of the Gulf of Papua.

6.	kai ¹	BOS/a;HIG/b,d
	kaii	BOS/a
	ai	TEB/b,c
	nkati	ANG/h
	aiwaai	ANG/k
	kae vaea	PUR
	hai	HIG/d
	aisi	TAT

¹An unusual set with many representatives in languages of the Gulf District (viz. TAT, PUR, ANG, TEB).

7.	ufi ¹	KOI/ao,a11
	uhi	KOI/a1,a11
	wi	KOI/a1
	wɣhi	KOI/a1
	uvu	KOI/c1
	uve	KOI/c11,c111,c1v,cv,cv1
	kufe	GOI/d
	udze	KOI/e

¹Reflexes of *huvi (MN-Chowning) and other similar reconstructions for *yam* given in *yam*: set 7. Relatives also in garden: set 20, sweet potato: set 11, and taro: Isolates.

8.	hazo ¹	KWA/a,b
	hahoʔa	MAN/b
	ahaʔa	MAN/b
	agovoto	MAN/b(Uder1)
	hakoʌ	III/av111
	hakoʌ	VI/bv1

¹Cf. relatives in taro: set 8, and yam: set 12.

Banana

9.	um ¹	MAI/ci
	?um	MAI/ci1
	mumu	KOI/d
	mumai	KOI/di
	mumuro	KOI/di
	mumo	KOI/di1
	mo'o	MAI/d,c;YAR/a,b
	mo	YAR/c
	mo'u	YAR/a11(Sth)

¹A locally distributed set in south-east Papua suspiciously like mugu, muk *banana* given by Z'Graggen (1969:67) for NAN languages of the Usur Group of the Madang area.

10.	bija ¹	BIN/c
	biza	BIN/a
	pize,pije,bije	BIN/g,h
	bidzo	BIN/1,k,n
	bijo	BIN/j
	bidze	BIN/1
	besa	DOG
	mɛ:zi	MAIS(K)
	me.	MAIS(C)
	bido	BIN/d
	bioho	MAI/ex11
	bito,bido	BIN/e
	biro	BIN/l,m
	bizhe	BIN/f

¹A consistent set found mostly in neighbouring languages along the north-east coast but with one example from the south coast of south-east Papua (viz. MAI).

11.	owe ¹	APA/b
	awe	APA/c
	kɔwɔ	MOR/f
	dawa	MAB

¹A doubtful set from western Papua.

12.	nændzi ¹	MOR/a
	nangi	MOR/b
	nai	TUR/Bariba
	naie	TUR/a

¹A doubtful and very restricted set in western Papua.

- | | | |
|-----|------------------|---------|
| 13. | kia ^e | II/Yoba |
| | kisai } | III/a11 |
| | kitai } | |
| | ete/petei | DAG/d |
| | kεε/ki | ROS/a |

¹Cognates found in NAN and AN languages of south-east Papua but one of the few sets containing cognates from Yele, the NAN language of Rossel Island.

- | | | |
|-----|------------------|-------|
| 14. | ebe ¹ | ESF/a |
| | ee | ESF/b |
| | ebo | ESF/c |
| | eb | ESF/d |
| | pou | HIG/a |
| | epolo | HIG/c |

¹A restricted set found only in languages of the north-west of Papua.

- | | | |
|-----|-------------------|-------|
| 15. | dima ¹ | APA/a |
| | sime | KIW/a |
| | simε? | TIR/a |
| | seima | TIR/d |
| | teipU | GOI/c |

¹A widely distributed set with representatives in central and western Papua.

- | | | |
|-----|--------|-------------------|
| 16. | dupali | KIW/d11 |
| | dubai | KIW/d111,e11,e111 |
| | dubuai | KIW/f |
| | duba:î | KIW/g |
| | dobali | ETF/a |
| | up | PAH/a |
| | dubali | UBP/b |
| | opae | KIW/a11 |

- | | | |
|-----|--------------|-------|
| 17. | katama | MAB |
| | katam | ETF/c |
| | zaruam | ETF/d |
| | marhak-katam | ETF/d |

- | | | |
|-----|-------|---------|
| 18. | bia'e | ELE/a |
| | meae | ELE/a,c |
| | mia'e | ELE/c |

Banana

- | | | |
|-----|---|---|
| 19. | adzue
adzudza
adzödza
adzədza
adzuədze
Adzədze | KOI/di
KOI/f
KOI/fi1
KOI/fi1
KOI/fi
KOI/fi11 |
| 20. | ada'am
navaha
lavaha
lavata
lavasa | MAI/a
MAI/b
MAI/c1,c11
MAI/ei1
MAI/e(except vii1) |
| 21. | vis
viɗ
viɗa | MOR/c
MOR/d
MOR/e |
| 22. | *yum
*suum | OK(PLO)
OK(PMO) |
| 23. | kobira
kobia
ubira | KIW/a,c
KIW/b
WAI |
| 24. | magu
magou | BOS/b
BOG |
| 25. | yo'o
dzo'o | PAW
PAW |
| 26. | kaputa
ga | WKU/a,c
EKU/a |
| 27. | leiyang
i | GOI/a
GOI/b |

- | | | |
|-----|--|---|
| 28. | ogi
ʔo(:)
o
moe
moʔa
mwoʔa
moke
moki
mo/ɔke
ɔgi/ogi
oε | DAG/a,g,h
DAG/e1
DAG/e11,f
V/f
V/l
V/t
V/n,q
VII/c
VIII/c
VIII/e(K)
VIII/f1 |
| 29. | youp }
eoup
yauɸ | DAG/a11
DAG/b |
| 30. | tauga
kauwa
kauga | MAN/a
BIN/l(Foru),n
BIN/n |
| 31. | a:ni/ʔani ¹
ŋani
ɣani
ani | I/f
II/b
II/bv,ci11
II/cv |

¹Reflexes of *kani *food, to eat* (OC(EB)-Grace). Relatives also in taro: set 7 and yam: set 19.

- | | | |
|-----|--|---|
| 32. | biku
beu
piku | II/a,PM
II/Magori
II/c1 |
| 33. | asai | III/a11,av111 |
| 34. | bwahiki
bwaʔi
bwakei
bwa.sihe
bahiki
buae | V/u;p
V/d
IX/d
X/c
X/d
II/bv11 |
| 35. | ɣaro
aru | VII/c
VIII/b |

Banana

- | | | |
|-----|---|--|
| 36. | ox
tsok | VIII/f11,111
XII/b |
| 37. | yalivata
naiwata
karawa | II/b1,11,111,v1,v11
II/bx
II/cv11,c1x |
| 38. | piaʔi
kiaʔi | II/Bina
MAI/ev111 |
| 39. | u.di ¹
hudzi
ʔudi
wudi
usi
hudi
udze | III/c
V/u
V/b
V/1
IX/c
V/r
KOI/e |

¹Reflexes of *pudi *banana* (MN-Dhowning), *puti *banana* (OC(EB)-Grace), *pun[tɨ]i[gʔh] *banana* (PAN-Dyen), and *pun[tɨ]i['] *banana* (PAN-Dempwolff). Capell (1943:130/235) notes also that the Motu dui *banana tree* is probably a metathesized version of the udi form, and that "the word can be followed through north Papua though other non-IN words intervene."

- | | | |
|-----|----------|---------|
| 40. | naarya | ANG/a,b |
| | zaaya | ANG/c |
| | laaya | ANG/d |
| | naanga | ANG/f |
| | nanga | ANG/l |
| | gaawa | ANG/i |
| | nggaaweʔ | ANG j |
| | nggauweʔ | ANG/j |

Isolates

hale	DUN
pidiɛɬʌ	TIR/b
kamoki	KAI
buai	KOI/e
vaduna	KWA/c
namo	MAN/a
inuga	MAN/a
magota? }	DAG/c
maguta }	DAG/g
kwasi	GOI/e (Karukaru)
ha.mbe }	ETF/d
ambe }	WIR
kaba	BIN/d
kaka	I/b
karua	I/d
u?u.na/u?una	I/e
ko.	II/Ouma
ramada	II/Bina
gida	V/k
pia?i	V/o
yapwae	VII/b
pihia	VIII/e (U)
yabeka	X/a
me	V/m
suʌ	X/d
ɬalo	XI/a
pwaipwai	XII/a
kunʌmwʌʌʌ	II/bviii
njeñ	II/bxvi
dawau	II/cv,cvi
agaga	V/s
yavua	
kami.ha	

Sugarcane

10.17. Sugarcane

1. ure ¹	KIW/a,a11,a111,d11,e11
kure	KIW/b,c
uri	KIW/d111
uʔe	KIW/e111
ue	KIW/e111
uwε	KIW/f
uwε:	KIW/g
ɲulu	ETF/c
ɔ:r	PAH/a
ul	ESF/d
ura/ula	BOS/a
tu	HIG/d
ku	MOR/g
kod	MOR/h
ʔɔse	KOI/f1
ko:sʌ	KOI/f11
qsə	KOI/f11
koutsə	KOI/f111
kousə	KOI/f111
koε	KOI/d1
ho	TEB/b,c;BIN/c
jo	BIN/c,f

¹This set contains cognates distributed widely throughout central and western Papua including the Teberan (TEB) Family inland of the heel of the Gulf of Papua.

2. geru ¹	MAB
neru	ETF/d
vřəv	ETF/b
galue	ETF/a
garu	II/Yoba;III/a11
galu	II/Bina;III/av111
khali	V/m,s
ga.lu	V/n

¹An interesting set with cognates occurring in NAN languages in western Papua and AN languages of south-east Papua.

3. hiya ¹	ESF/a
diyq	ESF/b
hiyāni	ESF/c
iyaki	WKU/c
iyō	UBP/a
iyao	TUR/a
iʔo	TUR
io	TUR

¹This set contains cognates limited to western Papua.

4.	yapu ¹	BIN/d
	yapimek	GOI/a
	yabi	GOI/a
	yap	GOI/b
	apir(i), apirA	GOI/c
	afiri	GOI/c
	apiu	GOI/c
	japu	GOI/c
	tæbe	GOI/e (Karukaru)
	yaup	DAG/a, a1
	yaop	DAG/a1
	ioup	DAG/a1
	youp	DAG/a11
	eoup	DAG/a11
	yaup	DAG/b
	yopu	DAG/c
	yabu	DAG/f
	yup	DAG/g
	iubim	DAG/g

¹A widely distributed set in central and south-east Papua. Cf. the following kindly supplied by Dr K.J. Franklin from NAN languages of the central highlands of New Guinea: yááh (Agarabi), sàáká (Binumaria), sah? (Awa), taa'a (Auyana), yabuwe (Fore), áfó (Siane), vafora (Kamano), yafi (Benabena), ya?i (Gadsup), zahi? (Gahuku), yofia (Kanite).

5.	ahé ¹	TAT;ELE/a,c
	ase	BOS/c;ELE/c
	ae	BAI
	aihe	ELE/a
	ai	GOG
	tai?	WIR

¹One of the few sets containing cognates from Eleman (ELE) languages and Tate (TAT) of the Gulf of Papua.

6.	ara(ha) ¹	MAN/b
	areha	MAN/a,b
	karada	BIN/1(Foru),m
	ale	GOI/e

¹This set contains cognates scattered throughout central and south-east Papua.

Sugarcane

7.	tohu ¹	UBP/b;KAI;PM
	ʔou	MAI/a,b,ci-xii,e
	tou	DOG;MAIS
	touyi	MAIS
	jabu	BIN/b,(i?)
	jou	BIN/g,h,j
	zou	BIN/a
	doʔu	BIN/d
	dom/dou	BIN/e
	dzobu	BIN/g,k,n
	zovu	BIN/h,l
	dzou	BIN/i
	o-u	MAI/c
	dou	BIN/e
	tohu	II/a;V/p,u
	tebo	II/Magori
	touvu	V/a
	tou	V/b,f,IX/c,d
	toubu	V/i
	tovu	VII/b
	tomu	VII/c;VIII/c
	tom	VII/c;VIII/b
	tu ^{wo}	X/c
	ovu	II/cv,vi,vii
	obu	II/cix
	tihu	V/r
	komu	II/bi,bii,biii,bv,bvi,bvii,bviii,bx,bxvi;II/ci,ciii
	ʔomu	II/civ
	rou	TUR/b
	you	TUR/c

¹ Reflexes of *tovu (MN-Chowning), *topu (OC-Grace), *tebuSe (PAN-Dyen), and *təbu (PAN-Dempwolff) *sugarcane*. Cognates widely distributed throughout most AN and NAN languages of central and western Papua.

8.	pfimæk ^{1,2}	BOA/a11
	fima(<u>k</u>)	BOA/a111
	fima <u>ka</u>	BOA/b1
	fime <u>ka</u>	BOA/b11
	maki/magi	EKU/a

¹ A restricted set limited to two language families of western Papua.

²(p)fi-. No apparent cognates have been located so far.

- | | | |
|----|----------------------------------|--|
| 9. | daɗa
madaia
madaea
pada | MOR/e,f
KIW/a
KIW/a11
TUR;PAW |
|----|----------------------------------|--|

¹One of the few sets with cognates in Pawaian (PAW).

- | | | |
|-----|-------------------------------|----------------------------------|
| 10. | kwʌn
kwolo
kwano
kon | MOR/a
MOR/b
MOR/c
BOS/b |
|-----|-------------------------------|----------------------------------|

¹A small set limited to two widely separated language families of western Papua.

- | | | |
|-----|--|--|
| 11. | (h)ngwa
ngwa
ngwa?
nggwe?/ngwe?
mgwe
kngo | ANG/d
ANG/e
ANG/1
ANG/j
ANG/k
ANG/l |
| 12. | imi
ivi
imu
imoi
emoi
ime | KOI/a,b1,b11,c1-111,cv-v1
KOI/civ
KOI/d1,d11
KOI/d1(Emo)
KOI/d111
KOI/e |
| 13. | iawa
yava
yawau,iawuio
yabau
eva
afa | YAR/a11(Sth)
YAR/a,b
YAR/c
YAR/c
KWA/c
MAN/a |
| 14. | *kūn
*kweit | AWY(PA;PD)
OK(PMO) |
| 15. | nga
ga | APA/a,c
APA/b |

Sugarcane

- | | | |
|-----|---|--|
| 16. | kimnda
kinna
gima
kingwa | ANG/a
ANG/b
ANG/e
ANG/f |
| 17. | wali
waa
wad+ | HIG/a,b (East)
HIG/b
HIG/c |
| 18. | opahe
oipoihi
opae | WAI
IPI
KIW/a11 |
| 19. | ha.i
ka?i
hagi | KWA/a
KWA/a
KWA/b |
| 20. | gauga
aue
aua | DAG/c
DAG/d
DAG/e1,e11 |
| 21. | ekeda
ke:pa }
ke.pa
keketa
khikh1, kiki | I/e
I/f
VI/bv1
X/a,d |
| 22. | gwetu
gwaito
gwatu
gwai.tu
gwaiku
gwaitu | V/d
V/k
V/l
V/o
V/q
V/t |
| 23. | keya
keya?
ke | VIII/e
VIII/e
DAG/h |
| 24. | taubea
taube | VIII/f1
VIII/f11,f111 |

Isolates

pukwaisi	BOG
səq/səy	WKU/a
gabo	TEB/a
amoro	KIW/c,TUR
nti	ANG/h
pi'o'ke	ELE/f
soai/so'oai	PAW
lae'ela	PUR
tuama/tuami/tuame	GOI/d
boko	YAR/d
sukono	TUR
mei	POR
yiy	MOR/1
anago	DAG/c
ganal	ANG/g
eni	I/a
oba'oba	I/b
?oba'oba	I/b
ova'ova	I/b
mabua	I/c
?una	II/Ouma
ndun	XII/a
va'ari	III/a11
na.ma	III/c
munimuni	V/u
kama	I/a
ro	XI/a

¹gana. Cf. fence: set 3d.

10.2. DISCUSSION OF RESULTS

10.21. General

The results just presented show that there is a large number of words most commonly used throughout Papua to designate the foodstuffs and associated agricultural items under investigation which can be grouped into a number of apparent cognate sets of varying sizes. Some contain cognates distributed over a wide geographical area, others do not. Those which do may conveniently be referred to as MAJOR SETS and those that do not as MINOR SETS. In the lists given above major sets precede minor ones (and isolates) although there is not formal dividing line shown.¹

Nothing much can be said about minor sets and isolates. Being limited to closely related or neighbouring languages (in the case of minor sets) or to single languages (in the case of isolates) one cannot tell whether they represent local innovations or isolated cases of more widely distributed forms which for one reason or another were not included in the data used for this study. Some are obviously borrowings since they occur across major linguistic boundaries (e.g., the AN-NAN boundary) but these cases are of little interest compared with those of much wider distribution that occur in major sets. Consequently nothing further will be said of them except as individual cases are relevant to the discussion of major sets from time to time. The rest of the paper will therefore be concerned primarily with major sets.

In considering these I shall be attempting to determine, in the first instance, which sets represent borrowings and which, retentions, and then, as the next step, to see what can be said about the history of each item. In doing this I shall be concerned initially solely with

¹The following chart gives the relative numbers of each, however:

<u>ITEM</u>	<u>MAJOR SETS</u>	<u>MINOR SETS</u>	<u>ISOLATES</u>
<i>Garden</i>	10	17	33
<i>Fence</i>	11	5	9
<i>Sweet Potato</i>	16	9	24
<i>Taro</i>	25	15	36
<i>Yam</i>	19	23	51
<i>Banana</i>	15	15	31
<i>Sugarcane</i>	10	14	27
Total	105	98	211

the linguistic facts as distinct from the physical items they represent. That is, I shall first be seeking to establish whether the cognate sets represent borrowings or retentions before attempting to relate these findings to the present-day distribution of their referents. This is so because even though we know from other evidence that sweet potato, taro, yam and banana are introduced foodstuffs in Papua we cannot argue from that that the present-day words must also be borrowings, since many factors (e.g., word taboo, contact with others) may have intervened to change them. However, once we have established whether the forms represent borrowings or not we can then proceed to relate their histories to those of the present-day foodstuffs.

In attempting to achieve these aims it will be convenient to distinguish between formal, distributional and semantic aspects of the sets, that is, between the phonetic and morphological structure of the given vernacular forms, their geographic range and associated meanings. Of necessity each of these will be treated separately, and in that order, although all three are subtly interconnected (in that, for example, cognates vary formally and semantically over distance). However, to restore some balance to this discussion some historical reconstruction based on this interdependence will be attempted in the conclusion to this paper.

10.22. Formal Aspects of Major Sets

10.22.1. Phonetic

Under normal circumstances where one has cognates from most, if not all, languages in the area under investigation phonetic features represent the most reliable source of historical inference. However, in this study where there are a large number of languages involved compared with the small number of major sets with cognates scattered throughout the many languages it is not possible to establish sufficient sets of regular sound correspondences between languages to gain any reliable insight into historical processes.¹ Yet there is one feature which may be of some significance, and that is, that within individual cognate sets the differences between cognates is usually not great, even

¹See Appendix C which contains a listing of correspondences between word-initial sounds in at least five language families/areas in Papua and which may be taken to be representative of other sounds in different positions in the sets under consideration.

though cognates may be very widely separated geographically. Now if this means anything more than that the cognate sets are reflections of the method (for example, in that forms were not regarded as apparent cognates unless they were obviously very similar) it probably means that the forms represent loans rather than retentions, otherwise the different phonological histories of the many languages in Papua would surely have provided a much wider set of variations. However, even if one could accept this it would be something of a double-edged sword for the high degree of regularity in form does not enable one to say anything about whence the forms came and by what route.

In summary then, the phonetic features of the forms do not provide any conclusive evidence as to the status of the forms or their histories, although the general absence of progressive phonological differences between forms within sets over distance suggests borrowing, if it is not a reflection of the adopted method of choice of apparent cognates.

10.22.2. Morphological

As already noted in section 10.05. above many of the given vernacular forms are actually bimorphemic.¹ The following chart gives a listing of examples representative of the different cases found in the present data (including some from minor sets and isolates) except for doubtful ones like *mosela*, *kuta*, *kogau*, and *gona'a* which are discussed in notes to sweet potato: set 1, fence: set 1, garden: set 6, and fence: set 2 respectively. In this chart hyphens indicate both probable and certain morpheme boundaries even though in some cases (e.g., *kaire kuta sweet potato*) the forms are recorded as free forms in the cognate sets given in section 10.1. above.

¹At least one is tri-morphemic, viz. *ne ufurana garden* which is a combination of *ne*, *u-* and *-fura(na)*. For cognates and some description see garden: set 2.

FORM	REFERENCE	FORM	REFERENCE
ba-buro	garden: 1	ki-bani	taro: 6
dzu-wore	garden: 1	sa-gani	taro: 7
ko-fura	garden: 1	elo-siveli	taro: 13
e-gelo	garden: 2	elo-madu	taro: 21
so-papo	garden: 3	ko-pare	taro: 39
go-gola	fence: 3c	tau-?era	yam: 2
xa-mbaro	fence: 4	koroma-kuta	yam: 10
va-bele	fence: 5	sin-kau	yam: 11
ku-r+ta	fence: 6		
a-kira	sweet potato: 2		
kaire-kuta	sweet potato: 3		
au-kava	sweet potato: 6		
kaua-mose	sweet potato: 6		
ini-veyu	sweet potato: 7		
gob-e?u	sweet potato: 11		

The interesting thing about these is that only a limited number of morphemes seems to participate in this kind of compounding (the most common ones being variants of *ko*, *kero*, *buru*, *hina*, and *kuta*)¹ and that, furthermore, none of these compounds involves either *banana* or *sugarcane*. In other words whereas the principal staples are often described in terms of each other *banana* and *sugarcane* never are, though as we shall see later (in section 10.24.3.) *banana* does participate in semantic changes with other foodstuffs in certain areas, and names for *sugarcane* seem to have been loaned around even though the item itself is indigenous. The reasons for this dissimilarity across items must surely lie in the obvious differences between the physical, culinary, agricultural and other properties of the different crops. Thus *banana* and *sugarcane* do not resemble sweet potato, taro or yam in shape, taste, texture etc., are not principal staples, and do not need to be protected or tended in the same way that these principal staples do. However, this does not mean that all meanings of present-day forms for sweet potato, taro, yam, garden and fence are transparent, for they are not. For example, while *baburo garden* is easily seen to be a compound derived from the words for *taro* and *garden* respectively² in areas where it occurs it is difficult (from a semantic point of view) to see how something like

¹These are discussed further in section 10.24.2. below. But see Appendix E for cognates under *KAU, *KERO, *(T)ISIABURU, *HINA, and *KUTA respectively.

²See Appendix E for cognates under *BA and *(T)ISIABURU respectively.

kaua mose *sweet potato* derives from a combination of kaua, which when unqualified, refers today to *yam* (q.v. set 2) and mose *sweet potato* (q.v. set 1). Loaning and semantic shift are obviously involved although at this point it is difficult to see any pattern in the distribution of these but we shall return to this question again in section 10.24. below.

10.23. Distributional Aspects of Major Sets

The central feature of this aspect of major sets is that most cognates cluster in one of two broad areas: (i) western; and (ii) central and south-eastern Papua. The former includes all languages approximately west of the Kikori River in the Gulf of Papua, and the latter, languages approximately east of Port Moresby excluding Yele of Rossel Island but including the AN languages of area I just west of Port Moresby. Separating these areas and including Yele just mentioned are other areas in which cognates are only rarely found. These areas include languages around the Gulf of Papua and inland of it, all of which are genetically very isolated or only remotely related to other NAN languages of Papua.¹

Within these two broad areas of concentration the distribution of cognates per set falls into a number of recurrent patterns with coastal and inland components, the first four of which are in Western Papua and the remainder in Central and South-East Papua. These are:

1. A weak Torres Straits component extending south from the Papuan coast across the Torres Straits;
2. A Strong Kiwai coast component connecting coastal areas between West Irian and the heel of the Gulf of Papua;

¹Cf. the following table:

CODE	STATUS	MEMBER OF THE TRANS NEW GUINEA PHYLUM?
TEB	Stock-Level Family	Yes
ANG	Stock-Level Family	Yes
GOI	Stock-Level Family	Yes
PAW	Isolate	Yes
ELE	Phylum-Level Family	No
ROS	Yele-Solomons-West Stock Member	No
PUR	Isolate	No
TAT	Isolate	No

Note that only half of these are at present thought to belong to the Trans New Guinea Phylum.

3. A weak Fly-River component linking the Upper Fly, the Strickland, and Lake Murray areas with the south-west coast;
4. A very strong Turama-Kikori Rivers component linking the inland areas around Mt. Bosavi and the Southern Highlands with the Kiwai coastal component;
5. A very weak Hiri component connecting the Gulf of Papua with the central coast around Port Moresby;
6. A strong central and south coast component connecting the central and south coast with the Hiri component and the islands east of the mainland;
7. Various Trans-Owen Stanley components linking the Hiri and Central and South Coast components with the north coast.

Now if these components are compared with those of traditional trading routes outlined by McCarthy (1938-40) it will be found that the two correspond in all except one major respect, viz. that no Purari River component appears in the linguistic data corresponding to the trade route of the same name connecting the inland areas of the Gulf of the Papua with the coast. Disregarding this exception for the time being the reason for such a high correspondence in distributional patterns is either that the distribution of cognates has resulted from contact between languages along traditional trading routes, or that the distributions represent patterns of common retentions, which, for other reasons, just happen to be distributed in a way that coincides with trade routes. What evidence is there for choosing between these two?

Firstly there is the general fact that whereas cognates are found in neighbouring areas across genetically diverse languages borrowing is more probable than retention. However, even though this applies well to many of the patterns just listed¹ it does not apply to all, for example, the Kolarian (KOI), Yareban (YAR), and Dagan (DAG) language families of south-east Papua which span the 'tail' of Papua - see map 7. Hence the principle provides only weak support for borrowing versus retention in this case. However, further support is to be found in the distribution of PAN reflexes in Papua.² If these are examined as a separate subset they will be found to be distributed in precisely the same way as cognates of other sets, and since we know that wherever PAN reflexes occur in NAN languages they must have been borrowed at some

¹Cf. map 7 and Appendix B.

²See Appendix D.

time from some AN source it can be safely claimed that the cultural events we are dealing with are borrowings (and therefore 'cultural' in the sense defined in the beginning of this paper) and not retentions. In recognition of this then, and for convenience, I shall henceforth refer to the areas of concentration of cognates and their internal patterned components described above as diffusion areas and diffusion routes respectively. These areas are shown on map 8.

Before leaving this section, however, there are two further points which need to be considered and to which I now turn.

The first has to do with the connection between the two diffusion areas, and the second with the Purari trade route mentioned earlier.

With respect to the first it is to be noted that many cognate sets have members appearing in both diffusion areas, the highest correspondence being between the Trans-Fly Stock languages (especially the Kiwai Family) and languages in central Papua (notably Binanderean languages and AN languages of area II). This connection is surprising in view of the fact that many of the cognate sets concerned are PAN ones (notably groups 1,2,3, and 5 of groups 1,2,3,5,6,7,8 in Appendix E) and that the two areas are separated by a large non-diffusion area around the Gulf of Papua. The reasons for this correspondence are probably complex but amongst them are probably to be numbered the following:

(a) One is that the cognates were borrowed from Hiri (or Police) Motu, the common lingua franca of mainland Papua. If so this must have been very recent since this lingua franca has only spread to western Papua since *Pax Australiana*. Moreover, it cannot be true for all items since there are cases like *kamara sweet potato*, *anega taro* and *wara fence* in western Papua which are not, and as far as is known have not been, part of Hiri Motu vocabulary.¹

(b) Another explanation might be that these items were distributed via trading links around the Gulf of Papua but have now been lost from those languages.² But why should this be so? Could it be that the selected items under consideration were not culturally important to the

¹Unfortunately there are no early records of the content of Hiri Motu except for a short wordlist published by Barton (1910), in which, however, only *taro* (which is glossed therein as *toera*) of this set appears.

²The only PAN reflex that occurs in Gulf languages is *mao sweet potato* (in PUR) (<**mao taro* (MN-Chowning); or **ηmao taro* (OMA-Grace)).

Gulf peoples who may merely have acted as intermediaries in distributing these items but who never retained any of the names for the items themselves? Unlikely, but perhaps if one considered pottery and say, sago, the principal items of trade in this area, the picture may be different;

(c) A third but very weak hypothesis is that the words came from different but related sources into both areas - those in the west from Indonesia via West Irian and those in the east via AN languages;

(d) Perhaps there was closer direct contact between western Papuans and the AN's of the central coast by way of trading voyages across the Gulf of Papua, for example, which have never been recorded or are now lost to memory;

(e) Finally, could some of the AN's of Central and South-East Papua have come from Indonesia, as Capell (1943) has suggested,¹ into Papua via the Torres Straits touching western Papua before finally establishing themselves in approximately their present position. There is a lot that such a suggestion might explain² although it does not explain the recent items like kumara *sweet potato*. However, without further evidence from Eastern Indonesia (particularly between the Moluccas and Timor), for example, it cannot be profitably pursued here. Perhaps some or all of these explanations are involved.

Niether can much be said about the other cognate sets which have members in the east and west diffusion areas. Some of the same explanations possibly apply, others (like number 1 for example) obviously do not. We shall return to the question of direction of diffusion in the next section where semantic aspects of major sets are considered.

Meanwhile there is still the second point noted earlier to be considered, viz. the non-diffusion areas and the absence of a Purari River component in the linguistic evidence in particular. Part of the reason for this situation undoubtedly has to do with the fact, also noted earlier, that the languages in this area are linguistic isolates of one sort or another and that the area is sparsely populated by semi-nomadic groups. Part may also be, for example, that the languages in this area show connections in other directions, which, because this study

¹See discussion in section 10.04. above.

²For example, the claim by the Motu that they came from the west rather than the east; the establishment of the Hiri; the peculiarities of the Motu language in respect of other AN languages of Papua.

was limited to Papua, cannot be seen in the present data but which may appear if data from the Territory of New Guinea were included. However, if this is not the case, and if the non-appearance of cognates is indeed not because of the failure to recognise them, then the correspondence between this non-appearance and the genetic isolation of these languages becomes more significant. Could it be that these languages represent relatively recent arrivals (probably from the central highlands to the north) into areas until then relatively unpopulated? But even so it is strange that there is virtually no evidence of a Purari River trading route component in the present data. Perhaps this is to be explained by the nature of the data used in this survey or by the nature of the terrain, which is notoriously difficult, although it is hard to see why this should interfere with the borrowing of linguistic items when it does not seem to have affected trading in non-linguistic ones.

In review then I think it can be safely said that the results of the investigation so far indicate that there are two diffusion areas of foodstuffs in Papua - one in western Papua and the other in central and south-east Papua - within which the diffusion of items has been along the major traditional trading routes, although we are not able to say anything yet about the direction of movement along these. There are, however, still the semantic aspects to be considered which may be able to throw some light on this question.

10.24. Semantic Aspects of Major Sets: Appendix E

One of the other most noticeable things about many major (and some minor) cognate sets is that they cross item boundaries, that is, related forms appear in different languages as labels for different items. Sometimes these related forms merely refer to different species of the same genera, e.g., maho (<*mao taro (MN-Chowning)) in different parts of the Rigo area just east of Port Moresby may refer to either of two species of yam *dioscorea esculenta* or *d.elata*,¹ but generally they extend well beyond that. A complete listing of these sets is given in Appendix E.

Much of the information contained in this Appendix can be summarised

¹ Although this is the simplest case it amply illustrates the point made earlier that the full distribution of cognates cannot be known until such times as all species names or folk taxa are included in the data.

as a table of features of the following form which will serve to begin more detailed discussion of the characteristics of the semantic changes undergone by reflexes of established or proposed protoforms throughout Papua. In this chart, as in the appendix, starred capitalised forms are used to represent tentative reconstructed protoforms for those sets for which there are no previous established or proposed reconstructions.

Semantic Features of Cognate Sets That Cross Item Boundaries

Group Number	Proto-Form	Cognate Meanings						Notes
		garden fence	sweet potato	yam taro	banana	sugarcane		
1	*kumara	x	x	x				Reflex of PN <i>sweet potato</i>
2	*kale		x	x	x			Reflex of MN <i>taro</i>
3	*mao		x	x				Reflex of MN <i>taro</i>
4	*kubi	x	x	x	x			Reflex of PAN <i>yam</i>
5	*kani			x	x	x		Reflex of OC <i>food, to eat</i>
6	*(T)ISIABURU	x	x	x	x			
7	*KERO	x	x	x	x			
8	*(M)BERE	x	x	x	x			
9	*KAU	x	x	x	x			
10	*KUTA		(x?)	x	x			
11	*KARA	x	x					
12	*(KI)BANI			x	x			
13	*HINA		x	x				
14	*ADARI		x	x				
15	*WAIA		x	x				
16	*KOKIA		x	x				
17	*HAGO			x	x	x		
18	*BA	x		x				
TOTAL:		10	5/6?	12	12	14	3	0

To begin with it is clear from this chart that the items garden, fence, sweet potato, taro, and yam regularly occur together or in groups in a way that banana and sugarcane do not. In fact sugarcane stands out from all the rest in being totally independent - reflexes of protoforms

for it never appears as anything other than 'sugarcane'. Thus the generalisation to be made here seems to be that whereas the principal staples and associated agricultural terms fluctuate in an integrated way the words for the supplementary foodstuffs do not (in the case of sugarcane) or do so only marginally (in the case of banana).¹ The question then arises, what are the determinants, if any, of this fluctuation, and what can it tell us about the diffusion of these items across Papua? In seeking to answer these questions, of course, we shall need to look at the semantic changes to see what kind of hypothesis allows for the explanation of the changes, e.g., Is there a consistent sequence of change from item to item and/or from language to language?; How do these relate to the distribution of present-day staples? The items will be treated in the following natural groupings: associated agricultural items; principal staples and supplementary foodstuffs.

10.24.1. Associated Agricultural Terms: Garden and Fence

These two items occur together as sole members of group 11(*KARA), together with other items in groups 6(*T)ISIABURU), 8(*M)BERE), 9(*KAU), and 18(*BA), and individually in others, notably groups 1(*kumara), 4(*kubi), 7(*KERO), 14(*ADARI), and 15(*WAIA) for *garden* and group 10(*KUTA) for *fence* though this last case can be discounted because it is a doubtful one.

Taking these in turn the following are relevant observations regarding the semantic and formal relationships between these items and others:

1. In group 11 it is clear that the meaning *garden* is restricted to one dialect of Suau and to a few dialects of the closely related and neighbouring AN languages Sinagoro and Keapara of central and south-east Papua. Hence *garden* most probably represents a change of meaning in those areas (unless both are independent extensions of some other meaning not yet recorded), so that it is legitimate to assign the proto-meaning *fence* to *KARA until such times as any counter evidence becomes available.
2. In groups 6,8,9 and 18 the first pair 6 and 8 and the second pair 9 and 18 fall together as parallel cases.

In groups 6 and 8 there is no evidence for choosing between various hypotheses as to the primacy of the meanings *garden*, *fence*. Although

¹Note the parallelism between this aspect of the sets and the morphological structure of *banana* and *sugarcane* discussed in section 10.22.2. above.

both are obviously derived from or associated with (in a way that will be discussed further in paragraph 3 below) from the names of the principal foodstuffs sweet potato, taro and yam there is no evidence to indicate whether these changes are real, and if they are, whether they are independent or connected.

In groups 9 and 18 forms for *garden* and *fence* are all compounds (e.g., *baburo garden* in group 18 is really a combination of *ba taro* and *buro garden*) so that there is no argument.

3. In groups 1,4,7,14, and 15 the given meaning *garden* is always restricted geographically either to one language or to two closely related and/or neighbouring languages, which suggests that either such changes are very recent or that the information is misleading in some way. For example, might it not be the case that the given meaning *garden* really represents an abbreviation or shorthand form for a longer one such as *sweet potato garden*, *taro garden* or *yam garden* since we know, at least for some areas of Papua, that speakers frequently do just that. For example, it is common in Mountain Koiari for speakers to say merely that they are going to the *lovi* (lit. *yam* or *yams*) as a short form of saying they are going to the *lovi buru* (lit. *yam(s) garden*) which they will produce if pressed. Indeed some confirmation of these suspicions is provided by the forms *asadl*, *avasl* given for *garden* and *atari*, *adari*, *adarA*, *adang* given for *sweet potato* and *atari* for *taro* in the same language (GOI/c) in group 14. Under these circumstances, where the data is uncertain, it would be unwise to pursue a treatment of semantic change any further until such times as the data can be checked or added to. By the same token, however, given this kind of abbreviating principle or tendency it is quite reasonable to expect changes over time of the form: principle crop + garden/fence. In fact such a principle is the only one which explains the present-day distribution of many words of the form BURU discussed further in Section 10.24.22 (2) below as given names for *garden* in areas where there is no related word for sweet potato, taro, and yam.

In review then it is clear that there is little evidence regarding changes in meaning involving the agricultural terms garden and fence. Although there is obviously a close association between gardens and fences and the crops they contain or protect there is no clear evidence to indicate whether semantic changes have occurred in the forms discussed here and if so whether these have been from garden to fence, or vice versa, or from principal crop to each independently. In only two cases

is it possible to suggest some sort of historical development. One of those is *KARA which is evidently a proto-form for *fence*, reflexes of which now refer to *garden* in certain dialects of three AN languages in central and south-east Papua. The other is BURU which represents a development from *(T)ISIABURU *sweet potato* discussed further below which split into two parts representable as (T)ISIA or BURU which were reapplied to *taro* and *yam* and eventually to *garden* in some areas where there is no linguistic connection between this form and present-day (given) forms for *taro* and *yam*.

10.24.2. Principal Staples: Sweet Potato, Taro, Yam

Here there are four different cases covering all possible combinations of each item with every other taken two and three at a time:

Case	Items	Examples
A	taro, yam	5,8,12,17
B	taro, sweet potato	14,16
C	yam, sweet potato	1,3,10,13,15
D	taro, yam, sweet potato	2,4,6,7,9

In discussing these Case A will be treated separately from Cases B, C and D since the latter all contain the item *sweet potato*, which, for historical reasons, has an important bearing on the interpretation of the linguistic facts. Moreover, examples, 12 and 14 have to be disregarded since each contains cognates from the same language with different meanings and since it is not possible to tell whether these differences represent dialect differences or recording errors these examples will be regarded as unreliable.

10.24.21. Case A

(1) Example 5

This contains reflexes of PAN *kani *food, to eat* distributed throughout AN languages in central and south-east Papua as *yam* and throughout NAN languages in western and south-eastern Papua as *taro*.¹ However, while the change PAN *food, to eat* → *taro, yam* represents an understandable narrowing of meaning in areas where taro and yam are principal

¹They also occur as names for *banana* and *food* in south-east Papua but these are not relevant here. See section 10.24.3.

staples there is nothing in the evidence to indicate where these changes occurred or whether they represent independent or connected ones.

(2) Example 8

This contains reflexes of some proto-form **(M)BERE* which are structurally and distributionally as variance with each other. Structurally the forms meaning *yam* are derived from some other meaning whereas the forms meaning *taro* are (excepting *tebele*) monomorphemic suggesting that *taro* is perhaps the primary meaning. Distributionally, however, the forms meaning *taro* are only found in a restricted area of western Papua (excepting *tebele* which occurs in one language of south-east Papua) suggesting that either the meaning *taro* is purely a local development and therefore not the primary meaning, or that the meaning *taro* has for some reason been retained only in this small pocket of Papua. The issue is unresolvable without recourse to other linguistic and/or historical information.

(3) Example 17

This is a simpler case than example 8 in that there are no bimorphemic cognates involved. By the same token, however, there are no purely linguistic indications of which of the two meanings *taro* and *yam* represents the probable primary meaning of the forms and which represents the changes. Consequently nothing further can be said without further information.

In summary then there is nothing in the evidence of Case A to indicate the historical precedence of *taro* over *yam* or vice versa or to indicate why forms have changed meaning in different areas.

10.24.22. Cases B, C, and D

In the forthcoming discussion examples 1-4, which involve PAN reflexes, will be treated separately from all others.

(1) Examples 1-4

The semantic changes observable here can be schematised as follows:

Example	PAN Meaning	Meaning in Papua
1	sweet potato	sweet potato, yam
2	taro	sweet potato, taro, yam
3	taro	sweet potato, taro, yam
4	yam	sweet potato, taro, yam

From this chart it is apparent that each item has undergone similar kinds of semantic shifts. However, more detailed investigation of the nature and distribution of these shifts reveals wide variation. Thus taking each in turn:

(a) In example 1 PAN *sweet potato* is reflected as *sweet potato* in many parts of Papua and as *yam* in a few neighbouring NAN languages of central Papua. This distribution coincides well with the present-day distribution of sweet potato and yam as principal staples and therefore suggests: (i) that the variety of sweet potato represented by **kumara* entered Papua from some AN source, probably in the east, and (ii) that the change *sweet potato* → *yam* must represent a late one if the sweet potato was indeed only recently introduced into Papua New Guinea (see section 10.02.).

(b) In example 2 the meaning *taro* is restricted to AN and neighbouring NAN languages whereas the meaning *yam* and *sweet potato* are widespread. In short, there is no consistent correlation between the distribution of these forms and those in example 1 nor with the present-day geographic distribution of principal food sources.

(c) In example 3 the change PAN *taro* → *yam* corresponds broadly with the same change in example 2 suggesting that there are similar underlying reasons for such a change though these reasons are not apparent in the data so far. On the other hand only one occurrence of PAN *taro* → *sweet potato* is recorded which contrasts markedly with the relatively large numbers in example 2.

(d) In example 4 PAN *yam* is reflected as *yam* in only a very small area of eastern Papua (VII/c, VIII/c, IX/d, DOG), as *taro* in only one language (GOI/d), and as *sweet potato* in neighbouring NAN languages in central Papua. Thus, leaving aside the one example of *taro* (which may be a recording error) the change PAN *yam* → *sweet potato* must be a subsequent development after reflexes of **kubi* appeared in Papua and this development must have occurred somewhere in central Papua where yam is a principal staple. That is, there is some agreement between this example

and example 1 though the direction of change is the reverse, i.e., *yam* → *sweet potato* here as against *sweet potato* → *yam* in example 1.

Thus in review the situation appears generally to be as follows: out of the many PAN protoforms that are reflected in Papua (see Appendix D) two (example 2 and 3) have undergone semantic changes which are unsystematic, i.e., are unrelated to the present-day distribution of principal food sources while two are systematic but opposing in terms of the direction of change, suggesting that different time periods are probably involved. As the same time it seems that, if the name of an item can be said to be introduced with the item, many items have probably been introduced to NAN languages in Papua via AN languages of south-east Papua.

(2) The Remaining Examples in Cases B, C, and D

These are examples 6,7,9,10,13,15, and 16. Of these three - 9,10,13 - can be disposed of immediately since the information in these is very much the same as that discussed in section 10.22.2. above where it was noted that the forms for *sweet potato* are often bimorphemic and based on a common form for *yam*. Compare, for example, the following ranges of variants in which common elements are underlined:

Example	Yam	Sweet Potato	Taro
9 *KAU	kau, au, lau	<u>aukava</u> , <u>kaua</u> mose, <u>aukapa</u> , <u>akira</u>	<u>kopare</u> , <u>saparu</u> , <u>sagani</u>
10 *KUTA	kuta, uta, ua	<u>kairekuta</u> , <u>ku:tazi</u>	--
13 *HINA	sina, <u>sanaru</u> , sini, <u>kini</u>	<u>hina</u> , <u>inaso</u> , <u>iniveyu</u> , <u>iniveu(da)</u>	--

In the present case, however, it is to be noted that the semantic changes involving *yam* and *sweet potato* are haphazard, that is, the same changes do not regularly occur in the same place, so that it is difficult to relate these changes to any influencing factor. Consequently nothing further can be said about these examples. We return therefore to the remaining examples, viz. 6,7,15,16.

In these there is a variety of evidence which is in general agreement despite variations in the quality of the data. For example, in example 6, there is a complex of forms which appear to be related by virtue of the fact that the smaller forms (which for arguments sake will be represented as (T)ISIA and BURU) can be identified as parts of a larger

form tentatively reconstructed as *(T)ISIABURU. Distributionally and semantically these forms have the following characteristics:

(i) reflexes of the full form *(T)ISIABURU occur as words for *sweet potato* in NAN languages of the "Bird's Head" area of West Irian and the southern highlands of north-west Papua, and as the word for *garden* in a Binanderean language of north-east Papua;

(ii) reflexes of the part (T)ISIA occur as *taro* in south-east Papua (BIN, DOG, KOI, II) and in north-east Papua in one isolated instance (ESF);

(iii) reflexes of the part BURU occur

(a) as *garden* in central and south-east Papua with sporadic occurrences also in western Papua (KIW) and in the Gulf of Papua (ELE, TAT);

(b) as *fence* in a restricted area of north-east Papua (BIN, VIII);

(c) as *yam* in central and south-east Papua but with some sporadic occurrences in western Papua (ETF, TEB) and the Gulf (ELE, TAT);

(d) as *taro* in two isolated cases in south-east Papua (II, V).

Such a distribution of forms and meanings may be explained by any one of a number of hypotheses. However, that which most easily and naturally explains this distribution in terms of the historical record as far as this is known is that which sees the smaller forms as different remnants of the larger one in different areas. That is, it claims that a form something like *(T)ISIABURU denoting one variety of sweet potato entered north-west Papua from West Irian (and ultimately Indonesia, where it will be recalled (see section 10.02.) that the sweet potato is thought to have been introduced by the Portuguese in the sixteenth century), and spread into south-west Papua via the mountainous backbone where it split into (T)ISIA and BURU as names for *taro* and *yam* in areas where sweet potato has not become the principal staple. Furthermore, the split into (T)ISIA and BURU must have been subsequent to the spread of the full form since the full form occurs in one area of south-east Papua as the word for *garden*. If the change *sweet potato* → *garden* represents a subsequent development as was suggested in section 10.24. above then reflexes of *(T)ISIABURU must have spread to at least the north coast of south-east Papua as *sweet potato* before being reapplied as the word *garden*, and before splitting into the two elements (T)ISIA and BURU. Moreover, the passage of *(T)ISIABURU into Papua via west Irian must have been south or north of the central highlands of New Guinea as no reflexes of this form have been recorded in that area despite the fact

that sweet potato is the principal staple there.¹ If south, then one has to ask how the forms got into south-east Papua across the non-culture area around the Gulf of Papua without trace. If north, then one can expect to find traces of it in languages of the Morobe District along the Papuan border to the north when more data is taken into account.

Irrespective of these problems, however, a hypothesis of the form *sweet potato* + *taro*, *yam* (as one moves from north-west to south-east) will generally be found to satisfy the remaining examples 7,15 and 16 in this subsection, although there are exceptions which should be considered if the data were more complete. However, attempts to correlate each change with individual languages fails because no pattern emerges, that is, the same changes do not occur in the same place.

In summary then there is a variety of evidence in this subsection that suggests that the sweet potato spread into Papua mainly, but not exclusively, from the north-west via West Irian, some having entered from AN areas probably from the east. Moreover, this spread must have been rapid and the impact great judging by the completeness of the spread in the several hundred years since the sweet potato is thought to have been introduced into Indonesia, as well as by the number of semantic changes that have occurred involving this item and others, including *garden* and *fence*. Moreover, the spread must have been accompanied by multiple independent developments since attempts to correlated changes with individual languages of language families or areas failed although there are individual cases of correlations between various semantic readings of forms and present-day distributions of principal staples, particularly *yam* and *sweet potato*. Yet the data raises many problems and leaves many questions unanswered that should be investigated when more data becomes available.

10.24.3. Supplementary Foodstuffs: Banana and Sugarcane

As already noted these two items participate only marginally (in the case of banana) or not at all (in the case of sugarcane) in semantic changes across item boundaries. That is, the names of the supplementary foodstuffs tend to be stable except where they approach principal staple status. When this happens the name will be found to fluctuate with those

¹We also know that the sweet potato is just reaching some northern parts of the area that borders on the central highlands of New Guinea so that it does not seem to have passed that way either. See for example, Sorenson (1972).

of the principal staples with which it comes into competition.¹ For example, in the present data *banana* will be found to alternate with *yam* and *taro* in each group of cognates in which it occurs with them (viz. (4) *kubi PAN *yam*, (5) *kani PAN *food, to eat*, and (17) *HAGO) and in those areas of Papua where the banana is an important foodsource, notably in central and south-east Papua south of the main range. It does not fluctuate with *sweet potato* because sweet potato has not yet become an important foodsource in much of this area.

Sugarcane, on the other hand, nowhere approaches principal staple status and has no real competitor so that its name is never found alternating with that of principal staples (or any other foodstuff for that matter). It nevertheless shows the same diffusion pattern as the principal staples and is therefore cultural in the same sense. Thus it appears to be the case that sugarcane has been traded about in much the same way as other items despite the fact that it is believed to be indigenous.

In summary then the evidence in this subsection seems to indicate that there is a general principle underlying the semantic changes that have been discussed throughout this section which may be briefly stated as follows: wherever a foodstuff comes into competition with another either as a principal or supplementary foodsource its name will be found to fluctuate with the name for the competing item or items. Banana and sugarcane are good examples of this. Thus the names for both are generally stable - that is, they always refer to these items wherever they are found - except where banana comes into competition with taro and yam as principal foodsources in parts of central and south-east Papua. Of course such a principle merely summarises the agreements noted between distributions of foodsources and the names used to identify them. It does not explain how, when, or where these changes occurred though we do have a general idea of the sequences of events that have

¹ Somewhat the same observations have been made by Chowning (1963:42) with respect to sugarcane, Derris, the putty nut throughout island Melanesia though she uses the term "stable" in a different sense. Cf. the following:

the names of the plants other than the starch staples tend to be stable - that is, to remain the same in related languages - as long as the plant itself is regarded and used in the same way by the speakers of those languages. Thus the comparative stability of the names for sugarcane, Derris, and putty nut would result from their consistent and virtually exclusive use throughout Melanesia, for, respectively, refreshment, fish poison and canoe caulking.

been involved in these changes. These may be briefly set out as follows:

(i) Taro and yam, and in some areas banana, where basic foodstuffs throughout Papua until the arrival of sweet potato; sugarcane never has been;

(ii) Gardening has long been associated with the cultivation of yam and taro;

(iii) The sweet potato is a recent arrival from the north-west and has become the principal staple in many areas but even in those areas where it has not it has provided many new names for gardens and fences;

(iv) All items have been traded throughout Papua (except for the area around and inland of the Gulf of Papua) in much the same way though this diffusion has been anything but unidirectional.

10.3. CONCLUSION

In this paper I have taken a set of vocabulary normally regarded as borrowed and examined it systematically to see whether the suspicions held about it are justified and then to see what other conclusions can be drawn from the collected data. In the process I have come to the conclusion that all except those individual forms or small sets of related ones which are restricted to single languages or to members of language families or neighbouring languages (herein labelled isolates and minor cognate sets respectively) are borrowed and are therefore justifiably regarded as "cultural" in the sense defined.

In general related names for these items were found to be concentrated in two main areas - western, and central and south-east Papua - separated by a large non-diffusion, or culturally isolated area around and inland of the Gulf of Papua (map 8).¹ Within these areas the names were found to be distributed in a way that is consistent with most of the known regular traditional intertribal trading routes although there is little clear evidence of the direction of movement along or between these, except for isolated cases that are referred to further below. Indeed the evidence seems to point to borrowing and loaning being multidirectional and not restricted to any one route or period of time. The distribution also raised the question of why the languages around the Gulf of Papua and inland of it do not show more evidence of contact with either east or west since there is a noticeable connection between the two diffusion areas involving, particularly, coastal languages from around the south-east corner of western Papua and many languages of central Papua across

¹See section 10.23. for details underlying the discussion in this paragraph.

this very same Gulf, and especially since we also know that at least some of the coastal languages from around the Gulf of Papua have been in regular contact with traders like the Motu from central Papua for a long time. Various possible explanations for this situation were discussed but there seemed to be no support for any one hypothesis over another so that the question remains open for further investigation.

As far as the history of individual items themselves was concerned the data turned out to be very difficult to interpret, principally because much of it was too sketchy to gain any insight into the sound changes that had occurred between different areas, and, consequently, into the historical connections between similar forms in different places (see section 10.22.). In other respects, however, the data revealed glimpses of regular processes at work which have produced many inter-connecting series of cognates. Thus, for example, it was noted that the names for the principal staples sweet potato, taro, and yam were very unstable (in the sense that the same form will be found to refer to different items in different areas) but that this instability (wherever it could be interpreted) seemed to be related to the recent introduction of sweet potato and the present-day distribution of these staples. Thus it seems to be the case that wherever sweet potato has become an important foodstuff it has generally resulted in the spread of new names for yam especially, but also taro, elsewhere, where these are still important foodstuffs, as was noted in the *(T)ISIABURU example discussed at some length (see section 10.24.2.). Much the same was also noted for banana in central and south-east Papua though in a much more limited way. Sugarcane, on the other hand, is very stable though still loaned and borrowed and is never associated with gardens and fences as the principal staples are (see section 10.24.1.), probably because it was indigenous and did not require protection and special tending as the principal staples do. Thus the evidence seems to indicate that wherever a foodstuff has come into competition with another either as a principle or supplementary food-source its name will be found to fluctuate with the name for the competing item or items.

At the same time the evidence seems to indicate that yam and taro on the one hand, and sugarcane on the other, have been important basic, though complementary foodstuffs in Papua for a long time (at least out of the items considered here). Gardening and fencing have also obviously been long associated with the cultivation of yam and taro (and later sweet potato) since the names for these foodstuffs have gradually become the

names for their associated protective and fostering items. However, there is, as yet, no indication of which of yam or taro is primary in time, or indeed, if either is, nor whence they came, except that some were probably introduced from AN areas probably in the east.

More recently the sweet potato has entered the scene and replaced the staples yam and taro in many areas as principal staple with linguistic consequences already outlined. This entry seems to have been mainly, but not exclusively, from the north-west via West Irian and the regular trading routes, although it is still not clear why few traces of this entry are found in vocabularies of languages of the central highlands of New Guinea where the sweet potato is the principal staple, or in languages of the non-diffusion area around the Gulf of Papua. Some also entered from AN areas probably in the east though this does not appear to be very important and the varieties represented by the cognate sets in this data do not appear to have established themselves very strongly, especially in central Papua, where the banana is an important staple. However, irrespective of the uncertainties surrounding the details of the direction of spread the spread itself must have been rapid and the impact great judging by the completeness of the spread in the several hundred years since the sweet potato is thought to have been introduced into Indonesia, as well as by the number of semantic changes that have occurred involving this item and others, including *garden* and *fence* (see section 10.24.2.).

Finally gardening and fencing were found to be closely associated with the cultivation of the principal foodstuffs sweet potato, taro and yam and the names of these are often given as the names for their associated protective and fostering items. In one case in particular, this association has resulted in a semantic change such that words for garden will be found in many areas to be reflexes of *(T)ISIABURU *sweet potato* where there are no reflexes of this form used as present-day names for either yam, taro or sweet potato.

In conclusion then it is clear that while this survey has provided some insight into the history of some present-day names for the items studied here throughout the Gulf and other districts of Papua, it is also equally clear that much more could probably be said given information of the right kind. However, these results are not likely to be achieved lightly. Thus it is apparent from this study that efforts should be concentrated on detailed separate accounts of individual items or sets of related ones (in terms of function, use, appearance to members of user

societies etc.) over a wide area, including especially eastern Indonesia which is a well known important centre of distribution for most indigenous economically important plants and foodstuffs in Papua New Guinea today. In such studies, however, one should be prepared to collect not only vernacular forms for as many varieties of the item under investigation as possible, but also those for those items which could possibly be, or have been demonstrated in this study to be, regarded as so related. For the starch staples this is likely to run into many hundreds of forms, but for others, like pig, for example, the range is likely to be very much smaller (e.g., village/tame/exchange versus wild/bush). Ideally too such studies should incorporate the more durable items of trade (e.g., pots, shells, axes, betelnut, sago etc.) and/or other items which are known to have been recently introduced (e.g., cassava, pawpaw, corn, fowl, tobacco etc.) and must inevitably involve other disciplines, but only in this detailed and co-ordinated way will it be possible to gain real insights into the culture history of Papua New Guinea today.

APPENDIX A

PHONOLOGICAL CHARACTERISTICS OF AN AND NAN LANGUAGES OF PAPUA¹

1. AN Languages

These are all very simple and uniform. They are characterised by open syllables, predictable stress on the second and third last syllables of words, the absence of consonant clusters and tone. Each has a five vowel system² (i, e, a, ɔ, u) and a set of about fourteen consonants covering voiced and voiceless stops (p, t, k, ʔ, b, d, g), nasals (m, n, ŋ), fricatives (f, v, z, ɣ), a lateral (l) and/or vibrant (r), and semivowels y and w. Of these ŋ is rare (occurring only in Mekeo as a separate phoneme although phonetically as a homorganic nasal following stops in Misima and the Calvados Chain), l and n correspond across different languages, and l and r rarely contrast though they have become established in published materials of many of these languages as apparently different phonemes, as have t and s also. Finally, there is no prenasalisation in any of the languages though labialisation of stops and of the nasal m is common, e.g., Dobu *bwas*i *water*.

¹These notes are based on the following sources: Boxwell (1966), Capell (1943;1969), Dutton (1969;1970;1971), Franklin (1971;1972), Lloyd (1972), Murane (1967), Pence (1964), Trefry (1969), Voorhoeve (1970a;1970b), and Wurm (1971).

²Except for Sudest Island which has unrounded varieties of o and u which probably belong to a stratum of the language shared with Yele, the NAN language of Rossel Island.

2. NAN Languages

There is greater variety in these than in the AN languages. Generally their complexity increases as one moves from east to west and inland towards the central highlands. Thus the languages of the south-east tail of Papua are, overall, very similar to the surrounding AN languages except for occasionally slightly larger consonant inventories incorporating more fricatives and occasional extra vowels. The same is true of Kiwai languages in the far west and the Suki, Gogodala and Boazi languages around Lake Murray although these latter are complicated a little by consonant clusters and some sub-phonemic nasalisation. As one moves inland into the Ok, Awin-Pare, Highlands, Pawaian and Angan languages tone and nasalisation become more important although tone is also found in the Kiwai languages excepting Wabuda. However it is at the extremes of the division that the most complex phonological systems are found. Thus Yele on Rossel Island in the east has complex sets of consonants preceded by unexploded stops, palatal plosive clusters and long consonants, while the languages around the Oriomo, Pahoturi and Morehead Rivers in the far south-west corner have large phoneme inventories of up to thirty-four consonants (including palatalised, labialised and prenasalised series and additional fricatives), eleven vowels (including rounded and unrounded front and back sets), two tones and complex syllable structures.

APPENDIX B

LINGUISTIC GROUPINGS IN PAPUA

This appendix contains a complete listing of presently identified AN and NAN languages of Papua. In it NAN languages are presented first within family and other higher-level groupings. AN languages are listed within areal groupings. (See section 10.04.). Some dialects are also included. These are identified by small roman numerals. The location of all languages is shown on Map 7.

NAN Languages

1. (CENTRAL AND SOUTH NEW GUINEA STOCK¹ (Voorhoeve and McElhanon (1970:10))

(OK) Ok Family² (Voorhoeve and McElhanon (1970:10))

- a. Kati Ninati
- b. Kati Metomka
- c. Ningerum
- d. Yongom
- e. Mianmin
- f. Tifal
- g. Telefol
- h. Faiwol
- i. Bimin
- j. Kauwol

(APA) Awin-Pare Family (Voorhoeve and McElhanon (1970:10))

- a. Awin
- b. Pare (Pa, Ba)

¹Voorhoeve's BED Bedamini (Beami) Family of this stock is now Franklin's BOSAVIAN STOCK, and his KIWA I and other stocks superseded by Wurm's (1971) classification.

²Only languages c,d,h actually occur in Papua.

2. GOGODALA-SUKI STOCK (Voorhoeve and McElhanon (1970:10))

(GOG) Gogodala

(SUK) Suki

3. MARIND STOCK (Voorhoeve and McElhanon (1970:10))

(BOA) Boazi Family¹

a. Boazi

- 1. North
- 11. South
- 111. Kuini

b. Zimakani

- 1. Begua
- 11. Zimakani

4. TRANS-FLY STOCK (Wurm (1971))

(KIW) Kiwai Family²

a. South Kiwai

- 1. South
- 11. Island
- 111. Coastal
- 1v. South Coast
- v. East Coast
- vi. Daru

b. Wabuda

c. Bamu

d. Turama-Kerewo

- 1. Goari
- 11. Morigi³
- 111. Kerewo⁴

e. Urama-Gope

- 1. Urama-Gope
- 11. Urama
- 111. Gope

f. Anigibi⁵g. Gibaio⁵

¹There are two other member families in this stock - Marind and Yaqay - but these are not represented in Papua.

²Miriam was originally included in the Kiwai-Miriam stock in Voorhoeve and McElhanon (1970:10), but now included in Wurm (1971)'s East-Trans Fly Family.

³Misspelled in Wurm (1971)'s map. Also shown as a language (not dialect) in Franklin (1972).

⁴Also shown as a language (not dialect) in Franklin (1972).

⁵Two extra languages of the Kiwai Family shown in Franklin (1972).

(TIR) Tirio Family

- a. Tirio
- b. Aturu
- c. Lewada-Dewara
- d. Mutum (Paswam)

(ETF) Eastern-Trans Fly Family (Wurm (1971))

- a. Bine
- b. Gidra
- c. Gizra
- d. Miriam

(PAH) Pahoturi River Family (Wurm (1971))

- a. Agöb
- b. Idi

(MOR) Morehead and Upper Maro Rivers Family (Wurm (1971))

- a. Nambu
- b. Iauga (Parb)
- c. Dorro
- d. Upper Morehead (Rouku)
- e. Lower Morehead (Reremka)
- f. Tonda
- g. Kanum
- h. Yey
- i. Moraori

(MAB) Mabuiag (Australian)

5. BOSAVIAN STOCK (Franklin (1972))

(ESF) East Strickland Family

- a. Samo
- b. Kubo
- c. Bibo
- d. Honibo
- e. Tomu

(BOS) Bosavian Family

- a. Beam¹
- b. Kaluli²
- c. Kasua²
- d. Kware
- e. Waragu³
- f. Etoroi³

(BAI) Baiapi

6. KUTUBUAN STOCK (Franklin (1972))

(WKU) West Kutubuan Family

- a. Fasu
- b. Some
- c. Namumi

(EKU) East Kutubuan Family

- a. Foe
- b. Fiwaga

7. INLAND GULF STOCK (Franklin (1971))

(UBP) Upper Bamu-Paibunan Family

- a. Minanibai
- b. Tao-Suamato

(IPI) Ipiko

8. TURAMA-KIKORIAN STOCK (Franklin (1972))

(TUR) Turama-Omatian Family

- a. Ikobi
- b. Omati
- c. Mena

(KAI) Kairi

¹= Voorhoeve and McElhanon (1970:10)'s Bedamini.

²One of these equals Voorhoeve and McElhanon (1970:10)'s Bosavi.

³These languages were only recently identified.

9. TEBERAN STOCK-LEVEL FAMILY (Wurm 1972))

(TEB) Teberan Family (Franklin (1972))

- a. Daribi
- b. Tebera
- c. Polopa

10. ANGAN STOCK (Wurm (1972))

(ANG) Angan Family (Franklin (1972))

- a. Simbari
- b. Baruya
- c. Ampale
- d. Kawacha
- e. Kamasa
- f. Menya
- g. Yagwoia
- h. Angaataha
- i. Ankave
- j. Ivori
- k. Lohiki
- l. Kapau

11. ELEMEN (or TOARIPI) PHYLUM-LEVEL FAMILY (Wurm (1972))

(ELE) Eleman Family (Franklin (1972))

- a. Haura (Orokolo)
- b. Opau
- c. Toaripi
- d. Kaipi
- e. Sepoe

12. HIGHLANDS STOCK (Franklin (1972))

(HIG) West-Central Family

- a. Sau
- b. Kewa
- c. Mendi
- d. Huli

13. GOILALAN STOCK-LEVEL FAMILY (Wurm (1972))

(GOI) Goilalan Family (Dutton (1971b))

- a. Biangai
- b. Weru
- c. Kunimaipa
- d. Tauade
- e. Fuyuge

14. KOIARI-MANUBARA-YAREBAN STOCK (Wurm 1972))

(KOI) Koiarian Family (Dutton (1971b))

- a. Koita
- b. Koiari
 - i. East
 - ii. West
- c. Mountain Koiari
 - i. Southern
 - ii. Central
 - iii. Western
 - iv. Northern
 - v. Eastern
 - vi. Lesser-Eastern
- d. Barai
 - i. North
 - ii. South
- e. Aomie
- f. Managalasi
 - i. East
 - ii. Central
 - iii. West

(KWA) Kwalean Family (Dutton (1971b))

- a. Humene
- b. Kwale
- c. Mulaha (Extinct)

(MAN) Manubaran Family (Dutton (1971b))

- a. Doromu
- b. Maria

(YAR) Yareban Family (Dutton (1971b))

- a. Abia
- b. Doriri
- c. Yareba
- d. Bariji

15. MAILUAN STOCK-LEVEL FAMILY (Wurm (1972))

(MAI) Mailuan Family (Dutton (1971b))

- a. Domu
- b. Morawa
- c. Binahari
 - i. Ma
 - ii. Neme
- d. Bauwaki

e. Mag1

- 1. Domara
- ii. Mailu Island
- iii. Borebo
- iv. Dereba1
- v. Asiaulo
- vi. Darava
- vii. Geagea
- viii. Ilai
- ix. Baibara
- x. Other islands
- xi. Gadaisu

16. DAGAN STOCK LEVEL FAMILY (Wurm (1972))

(DAG) Dagan Family (Dutton (1971b))

a. Daga

- 1. Northern
- ii. Southern

- b. Mapena
- c. Gwedena
- d. Ginuman
- e. Sona

- 1. Northern
- ii. Southern

- f. Jimajima
- g. Maiwa
- h. Onjob

17. BINANDEREAN STOCK (Hookey and McElhanon (1970))

(BIN) Binanderean Family (1971b)

- a. Suena
- b. Yekora
- c. Zia
- d. Binandere
- e. Ambasi
- f. Aeka
- g. Orokaiva
- 1. Sohe
- ii. Waseda
- iii. Popondetta
- iv. Dobuduru
- h. Hunjara
- i. Notu
- j. Yega
- k. Gaina
- l. Baruga
- m. Dogoro
- n. Korafe

(GUH) Guhu-Samane

18. YELE-SOLOMONS-WASI STOCK (Wurm (1972))

(ROS) Rossel Island Family

a. Yele

Gulf District Isolates (Franklin (1972))

(POR) Porome

(PAW) Pawaian

(PUR) Purari

(TAT) Tate

(WAI) Waia

(WIR) Wiru

Unclassified (Dutton (1971b))

(DOG) Doga

(MAIS) Maisin

(I) Area I

a. Mekeo

b. Roro

c. Nara

d. Kuni

e. Kabadl

f. Doura

(II) Area II

a. Motu

b. Sinagoro

i. Ikolu

ii. Balawaia

iii. Saroa

iv. Kwabida?

v. Taboro

vi. Boku

vii. Ikega

viii. Wiga

ix. Buaga

x. Kubuli

xi. Tubulamo?

xii. Omene

xiii. Kwalbo

xiv. Alepa?

xv. Vora

xvi. Oruone

xvii. Babagarupu

c. Keapara

- i. Hula
- ii. Babaga?
- iii. Kalo
- iv. Keapara
- v. Aloma
- vi. Maopa
- vii. Wanigela
- viii. Kapari?
- ix. Lalaura

d. Magori

(III) Area III

a. Suau

- i. Bonarua
- ii. Dahuni
- iii. Daiomoni
- iv. Daul
- v. Logea
- vi. Mugula
- vii. Sariba
- viii. Suau

b. Buhutu

c. Tubetube

(IV) Area IV

- a. Nuakata
- b. Guregure
- c. Keldogelan?
- d. Noboda
- e. Sawabwara
- f. Urada

(V) Area V

- a. Bwaidoga
- b. Dobu
- c. Enataulu
- d. Galeya
- e. Gilagila?
- f. Kukuya
- g. Lakulakuia
- h. Mataita
- i. Molima
- j. Nade
- k. Swea Bay

(VI) Area VI

- a. Wagawaga
- b. Kehelala
 - i. Basilaki
 - ii. Kehelala
 - iii. East Cape
 - iv. Yalaba?
 - v. Maiwara
 - vi. Tabara

(VII) Area VII

- a. Wedau
 - i. Wedau
 - ii. Taupota
 - iii. Awalama
- b. Dawawa
- c. Boianaki

(VIII) Area VIII

- a. Igora
- b. Paiwa
- c. Mukawa
- d. Gabobora
- e. Ubir
- f. Arifama-Miniafia
 - i. Arifama
 - ii. Miniafia
 - iii. Oyan
 - iv. Lakwa

(IX) Area IX

- a. Gawa
- b. Gumasi
- c. Kiriwina
- d. Murua
- e. Nada

(X) Area X

- a. Alinganda
- b. Bobohaean
- c. Nimoa
- d. Panayati
- e. Panakrusima
- f. Sabari
- g. Tokuna

(XI) Area XI

- a. Sud-Eastern

(PM) Police Motu or Hiti Motu, the principal lingua franca of Papua.

APPENDIX D

PAN REFLEXES IN PAPUA¹

Cognate Set	Meaning	Languages	Source
1. <i>uma</i> <i>umo</i>	<i>garden</i>	II/a,bx;PM KIW/c	garden: set 9
Reflexes of:			
<i>*quma</i> <i>(h)uma</i>	<i>garden</i> <i>garden</i>	(OC)-Grace (IN)-Capell	
2. <i>bala</i> <i>wara</i> <i>varaba</i> } <i>waraba</i> } <i>porotuto</i> <i>varanue</i> <i>obara</i> <i>xambaro</i>	<i>fence</i>	II/c KIW/e11;KOI/b; MAI/b,c VIII/b KWA/c(extinct) BIN/h	fence: set 4
Reflexes of:			
<i>*mpaa</i> <i>pala</i>	<i>fence</i> <i>fence</i>	(EB)-Grace (IN)-Capell	

¹All of the relevant reconstructed forms for MN given by Chowning (1963) for foodstuffs in MN have reflexes in NAN as well as AN languages in Papua except: (a) **pudi banana* which has reflexes in AN languages only, and (b) **vila taro* which has no observed reflexes in any language in Papua in the material used in this study.

Cognate Set	Meaning	Languages	Source
3. taro alo	<i>taro</i>	HIG/a;PM;I/b; II/a;biii ETF/c	taro: set 23
Reflexes of:			
* <u>taləs</u> * <u>talo</u> * <u>ntalo</u> (s) * <u>talət</u>	<i>taro</i>	PAN-Dyen,Capell MN-Chowning OC(EB)-Grace PAN-Dempwolff	
4. u.di hudzi ʔudi wudi usi hudi udze	<i>banana</i>	III/c V/u V/b V/i IX/c V/r KOI/e	banana: set 39
Reflexes of:			
*pudi *puti *pun[t+]i[qʔh] *pun[t]i[']	<i>banana</i>	MN-Chowning OC(EB)-Grace PAN-Dyen PAN-Dempwolff	
5. tohu ʔou tou touyi jabu jou zou doʔu dom/dou dzobu zovu dzou o-u dou tohu touv touw tovu tomu tom tuwo tebo	<i>sugarcane</i>	UBP/b,KAI,PM MAI/a,b,c1-x11,e DOG,MAIS MAIS BIN/g(1?) BIN/giv,h,j BIN/a BIN/d BIN/e BIN/g,k,n BIN/h,l BIN/i MAI/c BIN/e II/a;V/p,u V/a V/b,f,IX/c,d V/i VII/b VII/c;VIII/c VII/c,VIII/b X/c II/Magori	sugarcane: set 7

(Continued opposite)

Cognate Set	Meaning	Languages	Source
ovu		II/cv,vi,vii	
obu		II/cix	
tihu		V/r	
komu		II/bi,bii,biii,bv, bvi,bvii,bviii,bx, bxvi;II/ci,ciii	
?omu		II/civ	
rou		TUR/b	
you		TUR/c	
Reflexes of:			
*tovu	<i>sugarcane</i>	MN-Chowning	
*topu		OC-Grace	
*tebuSe		PAN-Dyen	
*tebu		PAN-Dempwolff	
6. kumwala <i>sweet potato</i> III/c;V/o sweet potato: set 9			
komwara		V/b	
kumuara		V/d,k;	
kumala		VI/ci	
kumara		KOI/bii	
kamara		KIW/eiii	
amareta		ETF/b	
ambara }		GOI/c	
biro			
thambara		BIN/g	
tambara		BIN/e,i	
kevara		MAN/a	
evara		KOI/dii	
gumala	<i>yam</i>	KWA/c	yam: set 25
kuvara		MAN/b	
[umana]		KWA/a	
gubara		MAN/b	
amara	<i>garden</i>	DAG/f;DOG	garden: set 27
Reflexes of:			
kumala }			
kumara }			
?umala }	<i>sweet potato</i>	Polynesian-Ray(1907:37)	
gumala }			
kumaa }			

Cognate Set	Meaning	Languages	Source
7. kali gali ga ale sali kaire kaire kut } kairekut kaire kuta kaele } kaire kaire kuta kairu kuta } kaire tuta kiru kuta baire baere bairén	sweet potato	TEB/a TEB/b IPI HIG/c(N.Mendi) PAW DOG;VII/b VIII/e VIII/f1,f11,f111 DAG/d,e1,e11,f MAIS(C) BIN/m BIN/n DAG/a1(Gwedede,b,c; DAG/c DAG/c,g	Sweet Potato: set 3
kare kale	taro	MAN/a II/b1,b11,bv1 bv11,bxv1;c1, cv11 BIN/g;II/bx II/c1v	taro: set 25
kae ?ale galiyo gayo gali kaaliya, kara [yare] kae gae	yam	ESF/a ESF/b ESF/c,d BOS/a KOI/d11 BIN/g BIN/1	yam: set 6
Reflexes of:			
*kale	taro	MN-Chowning	
8. mao mao mahó	sweet potato yam	PUR BOA/a111;II/bv KIW/d111,e11, e111;UBP/a; IPI;KWA/a;PM; II/a II/b BIN/e KIW/g KWA/a;MAI/b KWA/b	sweet potato: Isolates yam: set 3
ma.o mau ma?ou [mahó] [mahó?uro]			
Reflexes of:			
*mao	taro	MN-Chowning	
*ηmao	taro	OMA-Grace	

Cognate Set	Meaning	Languages	Source
9. ?uvi kubi kuv ubi	<i>yam</i>	VII/c VIII/c IX/d DOG	
<u>hope</u> ?a } <u>hobe</u> a <u>gobe</u> ?u <u>kobe</u> ?u <u>gobou</u> <u>gobe</u> u <u>kube</u> a <u>gobe</u> u	<i>sweet potato</i>	ANG/l KOI/c1 KOI/c1 KOI/c1(Eava) KOI/c11 KOI/c111 KOI/c1v,cv,cvi KOI/b KOI/b KOI/d11 GOI/d GOI/e(Karukaru) GOI/d GOI/d,e	
<u>kobe</u> ?a <u>gobe</u> ?u kupe kup kup kupa		GOI/d GOI/d,e	
kuve,kubalava,} kubu	<i>taro</i>	GOI/d	
upi tupi	<i>garden</i>	DAG/c DAG/d	
udze kufe ufi uhi wi wɣhi uvu uve	<i>banana</i>	KOI/e GOI/d KOI/a1,a11 KOI/a1,a11 KOI/a1 KOI/a1 KOI/c1 KOI/c11,c111,c1v, cv,cvi	
Reflexes of:			
*huvi	<i>yam</i>	MN-Chowning	
*qupi	<i>yam</i>	OC-Grace	
*qubi[?h] } *qumbi[?h]	<i>yam</i>	PAN-Dyen	
*'ubi	<i>yam</i>	PAN-Dempwolff	
hubi	<i>yam</i>	IN-Capell	

Cognate Set	Meaning	Languages	Source
10. kani } ʔani } ʔani ʔʌn an aneg anega sagani tagani ganisa	taro	VII/c DAG d DAG/e1 DAG/e11 ETF/d KIW/a111 KIW/d11,d111 KIW/f ANG/g	taro: set 7
gani ʔani kanikani anemai aniani narem sagani	yam	III/cv11 II/cv,cv1,c1x V/q I/a V/f III/a11 KIW/d11	yam: set 19
aniani	food	II/a	
ʔani ʔani ʔani } a:ni ani	banana	II/bv,c111 II/b I/f II/c1v	banana: set 31
Reflexes of:			
*ka,kai *kani	food to eat, food	EB-Grace OC(EB)-Grace	

APPENDIX E

Cognate Sets Across Item Boundaries

This appendix groups together those cognate sets from different items which appear to be reflexes of the same proto-form. The first five contain reflexes of established or proposed PAN proto-forms, the remainder, reflexes of as yet unestablished proto-forms which are tentatively represented herein by starred capitalised forms, e.g., *BURU. The listing follows:

1. *KUMARA

Cognates	Meaning	Languages	Source
amara	<i>garden</i>	DAG/f;DAG	garden: set 27
kumwala	<i>sweet potato</i>	III/c;V/o	sweet potato: set 9
komwara		V/b	
kumuara		V/d,k	
kumala		VI/ci	
kumara		KOI/bii	
kamara		KIW/eiii	
amareta		ETF/b	
ambara}		GOI/c	
biro			
thambara		BIN/g	
tambara		BIN/e,1	
kevara		MAN/a	
evara		KOI/dii	
gumala	<i>yam</i>	KWA/c	yam: set 25
kuvara		MAN/b	
[umana]		KWA/a	
gubara		MAN/b	

(Continued overleaf)

Reflexes of:

kumala	}	<i>sweet potato</i>	Polynesian (Ray (1907:37))
kumara			
?umala			
gumala			
kumaa			

¹See Brand (1971:359-63) for a discussion of the origin of this word and refutation of the notion that it is related to the American Indian Quechua word *cumar*.

2. *KALE

Cognates	Meaning	Languages	Source
kali	<i>sweet potato</i>	TEB/a	sweet potato: set 3
gali		TEB/b	
ga		IPI	
ale		HIG/c(N.Mendi)	
sali		PAW	
kairē		DOG;VII/b	
kairē kut}		VIII/e	
kairēkut		VIII/f1,f11,f111	
kairē kuta		DAG/d,e1,e11,f	
kāe1e}		MAIS(C)	
kairē}		BIN/m	
kairē kuta		BIN/n	
kairu kuta}		DAG/a1(Gwedede),b,c	
kairē tuta		DAG/c	
kiru kuta		DAG/c,g	
baire		MAN/a	taro: set 25
baere		II/b1,b11,bv1,bv111,	
bairen		bxvi;c1,v111	
		BIN/g;II/bx	
kare	<i>taro</i>	II/c1v	
kale			
kae	<i>yam</i>	ESF/a	yam: set 6
?ale		ESF/b	
galiyo		ESF/c,d	
gāyo		BOS/a	
gali		BOS/a	
kara		KOI/d11	
kaaliya		BIN/g	
[yare]		BIN/i	
kae			
gae			

Reflexes of:

*kale	<i>taro</i>	MN-Chowning
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3. *MAO

Cognates	Meaning	Languages	Source
mao	<i>sweet potato</i>	PUR	sweet potato: Isolates
mao	<i>yam</i>	BOA/a111;II/bv	yam: set 3
maho		KIW/d111,e11, e111;UBP/a;IPI; KWA/a;PM; II/a II/b BIN/e KIW/g KWA/a;MAI/b KWA/b	
ma.o			
mau			
maʔou			
[maho]			
[mahoʔuro]			
Reflexes of:			
*mao	<i>taro</i>	MN-Chowning	
*ŋmao	<i>taro</i>	OMA-Grace	

4. *KUBI

upi	<i>garden</i>	DAG/c	garden: set 20
tupi		DAG/d	
hopeʔa ¹	<i>sweet potato</i>	ANG/l	sweet potato: set 11
hobe			
gobeʔu		KOI/c1	
kobeʔu		KOI/c1	
gobou		KOI/c1(Eava)	
gobeu		KOI/c11	
kubeu		KOI/c111	
gobeu		KOI/b,c1v,cv,cv1	
kobeʔa		KOI/b	
gobeʔu		KOI/d11	
kupe		GOI/d	
kupe		GOI/e(Karukaru)	
kupe		GOI/d	
kupa		GOI/d,e	
ʔuvi ²	<i>yam</i>	VII/c	yam: set 7
kubi		VIII/c	
kuv		IX/d	
ubi		DOG	
kuve	<i>taro</i>	GOI/d	taro: Isolates
kuvalava			
kubu			

¹For eʔa, eʔu see yam: set 41.

²Perhaps also related to kombi, komba etc. given in yam: set 18.

(Continued overleaf)

Cognates	Meaning	Languages	Source
ufi	<i>banana</i>	KOI/a1,a11	banana: set 7
uhi		KOI/a1,a11	
wi		KOI/a1	
wɣhi		KOI/a1	
uvu		KOI/c1	
uve		KOI/c11,c111,c1v, cv,cv1	
udze		KOI/e	
kufe		GOI/d	

Reflexes of:

*huvi	<i>yam</i>	MN-Chowning
*qupi	<i>yam</i>	OC-Grace
*qubi[ʔh]}	<i>yam</i>	PAN-Dyen
*qumbi[ʔh]}	<i>yam</i>	PAN-Dempwolff
*'ubi	<i>yam</i>	IN-Capell
hubi	<i>yam</i>	

5. *KANI

kani }	<i>taro</i>	VII/c	taro: set 7
ʔani		DAG/c	
ʔani		DAG/e1	
ʔʌn		DAG/e11	
an		ETF/d	
<u>aneg</u>		KIW/a111	
<u>anega</u>		KIW/d11,d111	
<u>sagani</u>		KIW/f	
<u>tagani</u>		ANG/g	
<u>ganisa</u>			
gani	<i>yam</i>	III/cv11	yam: set 19
ɣani		II/cv,cv1,c1x	
kanikani		V/q	
anemai		I/a	
anʔani		V/f	
narem	<i>food</i>	III/a11	banana: set 31
<u>sagani</u>		KIW/d11	
aniani		II/a	
ɣani		II/bv,c111	
ɣani		II/b	
ʔani }	<i>banana</i>	I/f	
a:ni		II/c1v	
ani			

Reflexes of:

*ka,kai	<i>food</i>	EB-Grace
*kani	<i>to eat,food</i>	OC(EB)-Grace

6. *(T)ISIABURU

This large group is divided into (T)ISIA and BURU subgroups for ease of comparison. Some data is common to both.

6a. The (T)ISIA subgroup

Cognates	Meaning	Languages	Source	
<u>isiaburo</u>	<i>garden</i>	BIN/m	garden: set 1	
<u>siyofulu</u>	<i>sweet potato</i>	ESF/a	sweet potato: set 10	
<u>siyafuu</u>		ESF/b		
<u>siyobulu</u>		ESF/e		
<u>siyabul</u>		ESF/d		
<u>siapuru</u> }		BOS/a,b,c;WKU/a		
<u>siabulu</u>				
<u>siyabulu</u>		BOS/a		
<u>siapuri</u>		BAI		
<u>supuru</u>		WKU/a		
<u>tia</u>		HIG/a		
<u>dia</u>		TEB/c		
<u>diani</u>		TUR/Barika		
<u>sesiayuro</u>		4. Iria ¹		Information supplied by Drs C.L. Voorhoeve and M. Anceaux
<u>sersiabura</u>		5. Asienará		
<u>sie,sibu</u>	11. Iha			
<u>tiawu</u>	12. Barau			
<u>sia'i</u>	17. Puragi			
<u>si'japido</u>	20. Inanwatan			
<u>si'ap</u>	41. Borái			
<u>siew</u>	42. Hattam			
<u>isia</u>	BIN/k,l,m,n		taro: set 13	
<u>yisiya</u>	BIN/n			
<u>gesi</u>	DOG			
<u>sisi</u>	II/Labu			
<u>dias</u>	ESF/c			
<u>iya</u>	KOI/c11			

¹The locations of these languages are as follows:

- 4. Iria (NAN)
- 5. Asienará (NAN) } Western side of Kamarau Bay
- 10. Baham (NAN)
- 11. Iha (NAN) } Eastern side of MacCluer Gulf and around to Rijklof Van Goens Bay
- 12. Barau (NAN)
- 17. Puragi (NAN)
- 20. Inanwatan (NAN) } Western side of MacCluer Gulf
- 41. Borai (AN)
- 42. Hattam (AN) } North western side of Geelvink Bay

6b. The BURU Subgroup

Cognates	Meaning	Languages	Source
moro	<i>garden</i> ¹	KIW/b	garden: set 1
muro		MAN/a;b	
bua		BIN/a	
buro		BIN/e,i,j,k,l,m	
pure		BIN/f,g,h	
baburo		BIN/i	
isiaburo		BIN/m	
<u>kopura</u>		VII/c	
<u>kupura</u>			
<u>upura</u>			
<u>kofura</u>		DAG/d	
ne ufurana		KOI/f1	
dzuwore			
dzuwora		KOI/f111	
dzuwari		KOI/d	
dzuwai			
dzuru			
dzaure		KOI/f111	
dzura [?] ə			
ware		BIN/n	
buru		KOI/b1,c1,c11, c111,cv	
bu:		GOI/e(Karukaru)	
vu:		KOI/civ	
mu:		KOI/e	
mue }			
forova oti	ELE/b,c	<i>fence</i> : set 4	
oru(uta)	ELE/c		
faura	TAT		
vo.ore	KWA/a		
porotuto varanue	VIII/b		
furu	VIII/f1;BIN/m	<i>fence</i> : set 16	
fuř			VIII/f11,f111
furo			BIN/m
siyofulu	<i>sweet potato</i>	ESF/a	sweet potato: set 10
siyafuu		ESF/b	
siyobulu		ESF/e	
siyabul		ESF/d	
siapuru }		BOS/a,b,c;KWU/a	
siabulu			
siyabulu		BOS/a	
siapuri		BAI	
supuru		WKU/a	
sesiayuro	<i>sweet potato</i>	4. Iria	Information supplied by Drs C.L. Voorhoeve and M. Anceaux
sersiabura		5. Asienará	
sibu		11. Iha	
tiawu		12. Barau	
sia [?] i		17. Puragi	
sijapido		20. Inanwatan	
siäp		41. Borái	
siew		42. Hattam	

¹Cf. garden: set 1, f.n.1.

(Continued opposite)

Cognates	Meaning	Languages	Source
bu ^h k ^h u	yam	ETF/c	yam: set 4
borometa		ETF/c	
bolu		TEB/a	
[boluʔʌ]		KOI/c	
[bɔlukʌ]		KOI/c11	
[boluka]		KOI/c111,c1v	
bapore		ELE/a	
mapore		ELE/a,c	
maperi		TAT	
[amboro]		BIN/h	
[kamboro]		BIN/1,k	
[hopoi]		GOI/c	
[bolai]		DAG/a11,e1	
[bolaʔi]		DAG/e1	
olu	taro	II/Bina	taro: set 38
boro		V/b	

7. *KERO¹

e <u>gelo</u>	<i>garden</i>	BOS/b	garden: set 2
<u>igenai</u>		BOS/c	
<u>gero</u>	<i>sweet potato</i>	BIN/a	sweet potato: set 2
<u>kirutua</u>		KOI/f1	
<u>irui</u>		KAI	
<u>keloto</u> }		KOI/f111	
<u>kilotə</u> }			
<u>akira</u> }	EKU/a		
<u>agira</u>			
<u>kera</u>	<i>taro</i>	KIW/a11	taro: set 21
<u>elomaəu</u>		KOI/d1	
<u>kero</u>		VIII/d1	
<u>keru</u>		VIII/c	
<u>elo</u> sivali	<i>yam</i>	KOI/d1	yam: set 13
<u>iro</u>		KOI/d1,d11	
<u>kiroma</u>		MAN/a	
<u>ilo</u>		YAR/d	
[<u>iro</u>]		KOI/d	
[<u>iroma</u>]		MAN/b(Uderi)	
<u>keru</u>		VIII/b	

¹This group may also include mokela, mosera etc. given in sweet potato: set 1.

8. *(M)BERE

Cognates	Meaning	Languages	Source
meni } peni } meroi } meru mer berar perih pari pa'ea	<i>garden</i>	PAW MOR/l MOR/h MOR/g TIR/a KIW/a111,c KIW/e11	<i>garden: set 10</i>
vero } verε'ε } veru } yeru be:ra veire vabele yabili fabe faε mafe mafi pape paape ili pe:r pari berar naport bore bolibo tigala benali peni ariloi } xarida gari gari wan keri(zi) keri	<i>fence</i>	KOI/d1;f1 KOI/d11 KOI/f11 KOI/f111 KWA/a KWA/b TEB/c KOI/d1 EKU/a WKU/c HIG/a HIG/b BOS/b TIR/a ETF/a MOR/g ANG/h KOI/e ESF/a PAW GOI/e DAG/c,e1;VII/c DAG/e1 MAIS VIII/e	<i>fence: set 5</i>
me mber bed tebele pere firi meli mi mea	<i>taro</i>	WKU/a MOR/l MOR/h MAI/e TUR/c TUR/Dugeme POR TUR/Bariba TUR/Karima	<i>taro: set 1</i>
ere erawo yirau erau kerisi feri	<i>yam</i>	DUN;HIG/d KIW/a11 TIR/a TIR/b WKU/c TUR/a	<i>yam: set 1</i>

(Continued opposite)

Cognates	Meaning	Languages	Source
<u>efare</u>	<i>yam</i>	ELE/c	
<u>mbira</u>		HIG/b	
<u>mbere</u>		HIG/c	
<u>beli</u>		PAW	
[<u>ilawa</u>]		MAI/a	
<u>pedai</u>		GOI/d	
<u>obiri</u>		MAI/e11,e111,ex11	
<u>obili</u>		DAG/a11	
<u>wabil</u>		MAI/c1,c11	
<u>wabin</u>		MAI/a,b	
<u>bai?e</u>		DAG/g	
[<u>papi</u>]		MOR/d	
[<u>opeti</u>]		GOI/d	
[<u>wabi-i</u>]		MAI/c	
<u>wabiri</u>		II/Labu	
<u>obiri</u>		III/a11	
<u>vabuli</u>		II/b1,b11,b111,bv1, bv11,bxv1	
[<u>waburi</u>]		II/bv,bv111,bx	

9. *KAU

(h) <u>aukava</u>	<i>sweet potato</i>	KOI/a	<i>sweet potato: set 6</i>
<u>aukapa</u> }		ELE/a	
<u>aukapo</u> }		ELE/Unspecified	
<u>aukeva</u>			
<u>kauari</u> }		ELE/c	
<u>aukara</u>			
<u>kaua mose</u>		KWA/a	
<u>ava mohe</u>		KWA/b	
<u>hawani</u>		TAT	
<u>ukava</u>		I/a	
<u>kau</u>	<i>yam</i>	YAR/a11(Sth),c	<i>yam: set 2</i>
<u>ka?u</u>		MAN/b;MAI/d; YAR/a,b,c, YAR/a	
<u>xa?u</u>		MAI/c	
<u>kau-u</u>		MAI/c	
<u>u-a</u>		BIN/c	
<u>uare</u>		BIN/1	
<u>uware</u>		BIN/d	
<u>uwawia</u>		YAR/a11(Sth)	
[<u>aula</u>]		MAI/c	
[<u>au-ula</u>]		ANG/h	
<u>au</u>		GOI/a	
<u>lauwikmik</u>		GOI/a	
<u>lawikyeikmek</u>		GOI/a	
[<u>lawikwizimek</u>]		DAG/g	
<u>iau</u>		GOI/c	
[<u>aumai</u>]		MAN/b	
[<u>tau?era</u>]		YAR/a	
[<u>?aura</u>]		YAR/b	
[<u>awura</u>]			

(Continued overleaf)

Cognates	Meaning	Languages	Source
<u>kopura</u> } <u>kupura</u> } <u>upura</u> } <u>kofura</u> } <u>ne ufurana</u> }	<i>garden</i>	VII/c DAG/d	<i>garden: set 1</i>
<u>xambaro</u> <u>obara</u>	<i>fence</i>	BIN/h KWA/c(extinct)	<i>fence: set 4</i>
<u>kur+ta</u>	<i>fence</i>	ANG/b	<i>fence: set 6</i>
<u>gogola</u>	<i>fence</i>	II/Bina	<i>fence: set 3c</i>
<u>kopare</u> } <u>kobaeri</u> }	<i>taro</i>	BOS/c	<i>taro: set 39</i>
<u>saparo</u> <u>saparu</u>		WKU/a WKU/c	
<u>sopapo</u>	<i>garden</i>	ETF/b	<i>garden: set 3</i>
<u>sagani</u> <u>tagani</u>	<i>taro</i>	KIW/d11,d111 KIW/f	<i>taro: set 7</i>
<u>akira</u> } <u>agira</u> }	<i>sweet potato</i>	EKU/a	<i>sweet potato: set 2</i>

The following are additional doubtful sets:

<u>kukop</u> <u>kogau</u> (root crop) <u>gogosu</u>	<i>garden</i>	MOR/c ESF/a UBP/a	<i>garden: set 6</i>
<u>uta</u> } <u>uda</u> } <u>kh^hothəf</u> <u>kota</u> <u>ʔoha</u> <u>fota</u>	<i>fence</i>	BOA/a,b PAH/a MAN/a MAN/b DAG/b	<i>fence: set 1</i>
<u>gonaʔa</u> <u>gonaaʔaa</u> <u>onaga</u> <u>h^hh^honu</u> <u>qu</u> <u>uneʔ</u>	<i>fence</i>	DAG/e1 ANG/l DAG/f YAR/d TEB/b,c ANG/j	<i>fence: set 2</i>

10. *KUTA

<u>kaire kut</u> } <u>kairekut</u> } <u>kaire kuta</u> } <u>kaire kuta</u> } <u>kairu kuta</u> } <u>kaire tuta</u> } <u>kiru kuta</u> } <u>ku:tazi</u> }	<i>sweet potato</i>	VIII/e VIII/f1,11,111 MAIS(C) BIN/m BIN/m BIN/n MAIS(K)	<i>sweet potato: set 3</i> <i>sweet potato: Isolates</i>
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(Continued opposite)

Cognates	Meaning	Languages	Source
kuta	<i>yam</i>	DAG/h;BIN/n; MAIS(C)	yam: set 10
koroma <u>kuta</u>		BIN/n	
<u>?ua</u>		MAI/c1,c11,e11, e111	
oru <u>uta</u> (garden)		ELE/c	
ut/ <u>uta?</u>		VIII/e,f11	
uta		VIII/f1	
ua		III/a11	

Perhaps this group should also include the following:

uta }	<i>fence</i>	BOA/a,b	fence: set 1
uda		PAH/a	
kh ^h othə ^r		MAN/a	
kota		MAN/b	
?oha		DAG/b	
fota		OK(PMO)	fence: set 1b
*daam		GOG	
ta		TIR/b	
t ^h ak ^h			

11. *KARA

araya	<i>garden</i>	II/b1,b11, bxv11,c111	garden: set 21
yadaya		II/bv	
ara		II/c1	
araa		II/c1v	
gara	<i>fence</i>	KIW/e111;IPI; KOI/c;DOG;VIII/e	fence: set 3a
kar		ETF/d;MAB	
ɣala		KOI/a	
ɣara		II/b111,bv	
gaya }		MAI/a	
gaea		ESF/a	
bolibo <u>tigala</u>		KIW/a,b,c;ETF/a,b;	
kara		KAI;POR;WAI	
ara }	<i>fence</i>	KIW/c,d,f,g;TUR/a;	fence: set 3b
ala		PM;II/a,bv111	
arana		I/e	
arakhe		MOR/a	
arak		MOR/b,c	
koro	<i>fence</i>	ELE/a	fence: set 3c
kora		ELE/c	
oro		YAR/a	
<u>gogola</u>		II/Bina	
<u>orabo</u>		MAI/e(111,v11,v111, 1x)	
anihorA		GOI/c	

(Continued overleaf)

Cognates	Meaning	Languages	Source
gana	<i>fence</i>	DAG/a11;II/Labu; d;III/a11;VII/b; X/d;MAI/e(except i11,v11,v111,1x) II/a,b1,b11,bv11, bxv11	fence: set 3d
kana		II/c1,c111,c1v,cv, cv1,cv11,c1x	
gana	<i>arm/leg band</i>	II/a	
gana	<i>garden</i>	III/a111	garden: Isolates

12. *(KI)BANI

kibani	<i>taro</i>	DAG/a11;II/d; III/a11	taro: set 6
ipan/ipam		HIG/c	
ban		MAI/b,c1,c11,	
panine/bani		MAN/b	
bani		MAN/b;YAR/a;MAI/c	
bani	<i>yam</i>	MAN/b	yam: set 8
[bani]		MAN/b;DAG/b	
[banai/banae]		DAG/a1,g	

13. *HINA

sina	<i>yam</i>	KOI/a	yam: set 11
asĩ		GOI/e(Karukaru)	
sanaru		KOI/d1	
[sanaru]		KOI/d11	
[sin kau]		YAR/c	
[sini]		YAR/c	
kini		ROS	
hina	<i>sweet potato</i>	HIG/d	sweet potato: set 7
hiña		DUN	
se: no		KOI/c11(Borid1); c111	
ina		KOI/b1,b11	
inaso		KWA/b	
iniveyu		KOI/a(East)	
inueli		KOI/a(East)	
iniveu }		I/e	
inieuda }			

14. *ADARI

Cognates	Meaning	Languages	Source
adasl } avasl }	<i>garden</i>	GOI/c	garden: Isolates
adarA } atari } a dari } adang }	<i>sweet potato</i>	GOI/c	sweet potato: Isolates
atari dariq	<i>taro</i>	GOI/c TEB/b	taro: set 16

15. *WAIA

waia	<i>garden</i>	YAR/a,b	garden: Isolate
faiya	<i>sweet potato</i>	WKU/c;TUR/Ikob1	sweet potato: set 14
waisa	<i>yam</i>	GOG;BAI	yam: set 16
[waia]		KOI/a,b1,b11	
[waiagu]		KOI/c1(Eava)	
[waiaka]		KOI/f11	

16. *KOKIA

gogie } koki }	<i>sweet potato</i>	KOI/e	sweet potato: Isolates
kokia kokia } kokea }	<i>taro</i>	BOA/a11,b1,b11 BOA/a111	taro: set 27

17. *HAGO

ta saso nago hago dafu	<i>taro</i>	DUN KIW/a,a11,b KIW/a,c;TUR(Pepehe) KIW/c TUR/d	taro: set 8
sagu hago sago wagoro	<i>yam</i>	MAB KOI/b1 KOI/b1,b11 DAG/f	yam: set 12
hazo haho?a aha?a agovoto hakoA hakoa	<i>banana</i>	KWA/a,b MAN/b MAN/b MAN/b(Uder1) III/avi11 VI/bv1	banana: set 8

18. *BA

Cognates	Meaning	Languages	Source
<u>baburo</u>	<i>garden</i>	BIN/i	garden: set 1
<u>vabele</u>	<i>fence</i>	KWA/a	fence: set 5a
<u>yabili</u>		KWA/b	
<u>fabe</u>		TEB/c	
<u>fae</u>		KOI/di	
<u>mafe</u>		EKU/a	
<u>mafi</u>		WKU/c	
<u>pape</u>		HIG/a	
<u>paape</u>		HIG/b	
<u>mai</u>	<i>taro</i>	HIG/a	taro: set 2
<u>maa</u>		HIG/b	
<u>ma</u>		HIG/d	
<u>mafi</u>		MAN/a	
<u>ma</u>		BIN/c,d	
<u>ba</u>		BIN/d,e,f,g,g,i,j	
<u>wadu/vadu</u>		KOI/a,bi,bii	
<u>madu</u>		KOI/di,dii	
<u>elomadu</u>		KOI/di	
<u>maku</u>		KOI/e	
<u>ha'u</u>		MAI/a	
<u>ma</u>		BIN/a	
<u>baxa</u>		BIN/i	

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APPENDICES

APPENDICES

The languages which have been discussed in the foregoing chapters are now exemplified, wherever possible, in the form of the Swadesh 100 word list. The word list will be given in English and each vernacular list which follows will conform to the order of the English list. For cross-reference to other word lists used in elicitation in New Guinea see Laycock (1970), where all words are listed alphabetically and discussed.

ENGLISH MASTER LIST

1. man 2. woman 3. I 4. you (sing.) 5. we (incl.) 6. all 7. head
8. hair 9. eye 10. nose 11. ear 12. tooth 13. tongue 14. neck
15. mouth 16. arm 17. breast 18. belly 19. leg 20. knee 21. skin
22. blood 23. fat 24. bone 25. heart 26. liver 27. sun 28. moon
29. star 30. cloud 31. rain 32. night 33. water 34. ground
35. stone 36. sand 37. mountain 38. fire 39. smoke 40. ashes
41. path 42. tree 43. root 44. bark 45. dog 46. tail 47. bird
48. feather 49. egg 50. fish 51. big 52. small 53. good 54. long
55. red 56. white 57. black 58. yellow 59. green 60. hot 61. cold
62. full 63. new 64. eat 65. drink 66. stand 67. sit 68. speak
69. walk 70. give 71. sleep 72. lie down 73. see 74. hear 75. swim
76. come 77. flies 78. bite 79. name 80. dry 81. who 82. what
83. burn 84. louse 85. many 86. this 87. that 88. one 89. two
90. knows 91. kills 92. not 93. leaf 94. meat 95. horn 96. claw
97. person 98. seed 99. round 100. dies

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APPENDIX A: ANGAN

A.1 Angaataha¹

1. wo-'o 2. apop-aati 3. nini 4. kinyi 5. nya'a 6. na'atewa
7. miti-'o 8. misis-a'a 9. nt-a'a 10. mant-a'a 11. ati'-iri
12. mank-iri 13. omas-a'a 14. naa'inti-'o 15. maa'o-mwangi
16. ikw-iri 17. amwiti'-iri 18. nkwi-s-a'a 19. au'-iri 20. atoti-pati
21. ampi-pati 22. nsiti-pati 23. ati-pati 24. anti-tati 25. maari-'o
26. apo'i-pati 27. ipi-'o 28. waati-'o 29. kaumpw-aati 30. tiwi-pati
31. wi-pati 32. ap-ati'i 33. wapo-'o 34. yapi-pati 35. naw-a'a
36. ari-pati 37. sisi-'o 38. sis-a'a 39. siti-pati 40. waati-pati
41. ntai'-ira 42. i-pati 43. ntami-pati 44. u-pati 45. su'-iri
46. nawiti-'o 47. ko-'o 48. at-a'a 49. kwaatani-pati/nameraa-'o
50. arai-'o 51. awai() 52. nkwa'araa() 53. nkaa() 54. utaari
- () 55. namonsi() 56. ko'epi() 57. asi'i() 58. ikirota()
59. kwanyapi'siti() 60. ta'anga() 61. mpwaa() 62. tisaita
- () 63. wani() 64. nanataise 65. wapo'o nanataise 66. mpitotapaise
67. mpintataise 68. katapaase 69. ntaayataise 70. naninyataise
71. nanotaise 72. nanopotapaise 73. nsataise 74. atisataise
75. naa'imanataise 76. nasataise 77. napwanataise 78. ikotaise
79. ampi-pati 80. niyaipas() 81. ntiyama-'o 82. napinte
83. ta'ataise 84. akiri-'o 85. taa'i() 86. s() 87. ntai()
88. nas() 89. ya() 90. mmonataise 91. tiwamataise 92. maa-/maa'e
93. is-aa'a 94. nkwi'titi-'o 95. maasamaa'ipi-'o 96. isus-a'a
97. utaa-'o 98. yanti-pi-'o 99. taapwina() 100. napotaise

¹ () represents a noun class morpheme which must occur. Morphemes following - (hyphen) are noun class morphemes. Underlining indicates verb roots.

A.2 Ankave¹

1. oga 2. aavagi 3. nyont 4. yoga 5. none 6. navinya 7. minga(yi)
8. nda'a 9. simu(yi) 10. si'ma 11. haara'a 12. maangi 13. aai'wi
14. singwi 15. maangi 16. fe 17. aamunga 18. aanggu 19. sugwaaviaga
20. kwo'munga 21. yaraa(na) 22. taangga 23. (s)a'wa 24. enga'
25. uwa' 26. aaia 27. sanggwa 28. ema' 29. sengi 30. aanggwa
31. nnya 32. sa'atina 33. yinunggu 34. kwaa'ara 35. sa'anga
36. inaga 37. ntiwa(ra) 38. ta'a 39. singwara'a 40. uraaga
41. fayi/o'a 42. ika' 43. stvaga/ika'avinga 44. (ika)yaraa(ri')
45. si'wia 46. sawia 47. inga 48. aa'a 49. ki'minga 50. pa'a/tamunga
51. gwayi 52. meyaayuga 53. naanga 54. sovia(ngara) 55. tanki(ringa)/
- aaia 56. avaawagina 57. para(mingina) 58. yaawo' 59. onagwaa(ringa)
60. ta'a tangigina 61. yiminga 62. maankute 63. singa 64. neo'
65. inuga naadina 66. ero 67. e'ingwaani' 68. daadadina
69. wangeraari 70. taavonya 71. saa piyawaadina 72. saa went'
73. singwinaande 74. aara aadengi 75. aasiwaaira 76. aayowavani
77. inga wiwadina 78. siwaraari 79. avaa'nankana 80. yaai'ya'
81. nkogana 82. pi'nu 83. ta'a ninkyaarengi 84. iya 85. ompaaga'
86. ta(vuga) 87. aai(vuga) 88. naawona 89. uwa 90. ninjaagina'
91. piya navagirengi 92. fima 93. (ika)wa' 94. sinkiwa' 95. siwanga
96. sigwa 97. a'ma 98. waanimira 99. pa'munka' 100. navedenge

A.3 Ampale²

1. hwe 2. ape 3. nka 4. kika 5. naakwa 6. me'wa 7. minakina
8. misa 9. tima 10. zamaana 11. haaraha 12. maanga 13. meraanya
14. ti'waanga 15. maanga 16. aaha 17. aamna 18. zimeha 19. zive
20. haamihwaanga/hwamma 21. (aa'ma)paaha 22. yaa'mpaza/saahana
23. aavava 24. yakana 25. mehwa 26. he 27. mape 28. haamna
29. zinakwaaria 30. katahuya 31. nahaza 32. zikuna 33. aaya
34. hwaaha 35. zasa 36. wazaha 37. hwaana 38. tiha 39. zavya
40. hwaakuva 41. haanankaana 42. iya 43. (i)pavanga 44. (iya) paaha
45. ziwasa 46. zime 47. yihuva 48. tehwa/vevarahana 49. mina
50. saminga 51. inga 52. we'na 53. hi'waampe/tewaana 54. zaawema
55. aahasa 56. hwavaasa 57. zikuna'miya 58. waahasa 59. zankatasa
60. tihamtnna 61. sapaaha 62. maanga hupanaha/maankaaku'nya 63. zanga
64. hankaha 65. aaya hankaha 66. harakavahumaaha 67. hahumaaha

¹Parts in brackets are other morphemes or partials. Alternative forms are separated by /.

²Note that Ampale h has features of both Kapau h and q.

68. harahaha 69. haana waaravaha 70. hantaaapahaha 71. zaaha haviyaawe
 72. haviyaawe 73. hawihwankaha 74. hawipaa'nkaha 75. hayaatakunkaha
 76. hapahaha 77. vekwaaravaha 78. taha hawiravaaravaha 79. yave
 80. zaataya/zazaatiya 81. tihwa(re) 82. peha(te) 83. hazisahaha
 84. iyaa 85. haraya 86. ara 87. aza 88. ingava'na 89. huvaa'u
 90. ntapaa'ninkana 91. havansaaharaha 92. ma-/-'maaha 93. uranga
 94. nukuva/maasive 95. zihwaana 96. taapanga 97. aa'maamiya
 98. izaviya/uya 99. kwoime 100. hape'nkaha

A.4 Baruya

1. kwala 2. bala 3. n*imi*(no) 4. g*imi*(no) 5. n*emi*(no) 6. yuya
 7. minyaginya 8. mijata 9. tinna 10. sinna 11. kadika 12. maanga
 13. taalita 14. tilinna 15. maanga 16. ata 17. aa(ng)winya
 18. munya/siwalika 19. sivila 20. kwanna 21. kilaaka 22. tawe
 23. sigunya 24. yaginya 25. pawe 26. kale 27. nyila 28. langwe
 29. silingaaminya 30. yiraaya 31. burika 32. sa(q)wita 33. aalya
 34. kwaaka 35. sila 36. weka 37. migunya 38. dika 39. jita
 40. kwaagita 41. tuta 42. ita 43. pwipula 44. (y*i*)kilaaka 45. jilika
 46. suya 47. yuta 48. pivya 49. (yu)kwaraka 50. jawinya 51. naanga
 52. maalika 53. tewaanya 54. saaminya 55. wayaaka 56. yaaka
 57. jiqinya 58. aawi'ja 59. yijuza 60. dika 61. liku'ja 62. maanga
yeku'niwa' 63. mudika 64. niwa' 65. aalya niwa' 66. daa'mwa'
 67. mwaali' 68. (yagaala) diwa' 69. kaanya wiwa'/yamaryiwa'
 70. nyijaawa' 71. se wari' 72. wari' 73. tinna wangamwa' 74. kadika
wi'niwa' 75. li'niwa' 76. biwa' 77. pilakuwa' 78. tika da'mwa'
 79. yaya (yavya) 80. yaalika 81. aalo 82. baa(riva') 83. yidiwa'
 84. yile 85. piijaako 86. da- 87. sa- 88. piri'(na) 89. piriwaai(na)
 90. kunya yawi'mwa' 91. tamwa' 92. ma- -y/miko 93. kiwata
 94. mi(q)wita 95. saanya 96. parya 97. a'mwe 98. wia 99. tiqwaqunya
 100. baimwa'

A.5 Ivori

1. avo 2. avaagi 3. to' 4. oga 5. tonaai 6. aawa 7. minggai
 8. mde 9. haagwe 10. hami 11. aari(na) 12. maage 13. aaveona
 14. abdiga 15. maaga 16. faaya 17. aamugo' 18. abgu 19. habgu'
 20. omiga 21. yarana 22. taagi' 23. aawaawe' 24. yinggai 25. fu'u
 26. haaya 27. habgo' 28. imo' 29. hanggie 30. abgwi' 31. rnaa'
 32. mwaanu' 33. (i)naagu 34. 'uragura 35. haai 36. yinagiya
 37. faarere 38. taa(vi') 39. taagore 40. uraage 41. faai 42. igya

43. saavage' 44. (ig)yaraana 45. tiyo 46. yiviriki 47. inko 48. fave'
 49. munke'/nge' 50. pe' 51. yagya 52. saaigwe' 53. naage'
 54. towaanige' 55. taare' 56. havwe'/avaave 57. paare' 58. hadoi'
 59. awaade' 60. mdaanari 61. yimga(va) 62. maankwe' 63. (avona) hagu'
 64. nimda' 65. naari 66. eraare/ere 67. oma 68. dinde 69. onawaari'
 70. nimanimdanda 71. yaa ware 72. yaa we' 73. haanamdega 74. aariga
 75. havaayari 76. navare' 77. fofa nkaaramdira 78. haraara
 79. taagi(va') 80. yaai'e 81. nkoga' 82. nimive' 83. taavi ndare
 84. nde' 85. avaande' 86. te 87. aaia(wiga) 88. fono 89. foya
 90. viogaara 91. naamdi 92. fe- 93. (igya) bwe' 94. hinkwe'/sinkwe'
 95. siwaage' 96. haagavava 97. avo 98. (iga) haabgwe' 99. yimanaai
 100. naaveria

A.6 Kamasa

1. kwe'wa 2. amaa 3. nyi(ko) 4. si(go) 5. naa(go) 6. ega 7. magina
 8. njisa 9. tuma 10. sipata 11. kata'a 12. maanga 13. tewa
 14. sukwaanga 15. maanga 16. haa(mugo) 17. aanya 18. aawa(ma)
 19. sugwa 20. kwonga 21. pa'a(me) 22. kwe 23. 'aawa('ma) 24. yakina
 25. kwiyakina 26. ke 27. mape 28. ki'yapa 29. ema 30. kogwa
 31. pi'ya 32. kaaya 33. kwe('ma) 34. kwaka 35. tega 36. (tega)waa'ya
 37. kwaaya 38. ta'a 39. sugape(vogo) 40. wataaya(vogo) 41. fia
 42. isa 43. pavapa(vogo) 44. (isa) paa'i 45. suya 46. siwana
 47. maniwa 48. haa 49. hi'imiya 50. boipu'ya 51. naamu 52. waanyane-
 (vogo) 53. maanga 54. saagwa 55. aa'ya 56. kwehu 57. yagwama
 58. - 59. i'isa 60. itinyaana 61. wemanga 62. tataa 63. saanga
 64. inyo 65. maanamanu 66. kawaatamanu 67. kawenu 68. nyiaatamanu
 69. waatawaayo 70. simaanu 71. semanu 72. se manu 73. tima kaanamanu
 74. nyiaagataumanu 75. nankwaayo 76. mpiyo 77. manumanuo'oyo
 78. siyaavu 79. nyanyaawo 80. yia 81. tigwakego 82. pi'you
 83. ta'amaviwesio 84. iya 85. tatau 86. titaayio 87. wogo
 88. hunaninko 89. hukwego 90. nyukuaawianu 91. piya (navazavinda)
 92. maa- 93. (isa) kiwa 94. saagamimo 95. kaani 96. saapinga
 97. a'me 98. (isa)haama 99. igameno 100. piya'ma nkiyo

A.7 Kapau

1. qoka 2. aapaka 3. ni 4. nti 5. nai 6. aqa(pu) 7. mnga 8. mta
 9. hingo 10. hima 11. qata 12. maanga 13. aaiwa 14. hego
 15. maanga 16. fe'a/fempaa 17. aamnga 18. au'wa 19. yanga
 20. qomnga 21. hewa 22. hinge'aa 23. aawa 24. yanga 25. hav'a/fav'a

26. qe'a 27. mapa 28. qaamnga 29. sa'anaaka 30. qawa 31. piya
 32. hipinaa/hipi'ya(m) 33. e'aa 34. qoaa 35. hawa 36. uwha 37. mnga
 38. ta 39. tivaaka 40. wataaka 41. fan'a 42. iya 43. taapinga
 44. (iya) hewa 45. hive'aa 46. su'wa 47. inga 48. aa 49. mnga
 50. waimpoka 51. na'a 52. wanqa 53. awa 54. qhouka 55. hamaata
 56. qapaahe'a 57. tifa'a 58. hiviya 59. hauyenka 60. ta hanga
 61. ymnga(ta) 62. maanko 63. hnanga 64. qan'i 65. e'aa qan'i
 66. ya qato 67. ya qapmeaa 68. qati 69. qaanga gu'wi 70. qantaapi
 71. saa'aa qoe 72. saa'aa qoe 73. hingo qu'wana 74. qata qi'i
 75. aaifaa qa'i 76. qapi 77. nappiyaa'aa qu'wi 78. haqoaanga qato'i
 79. yav'a 80. yea 81. to'o 82. pi'ya 83. ta qan'i 84. iyaa'aa
 85. ninqa/qoaapa 86. ta 87. a 88. fati(na) 89. hivaa'u 90. aqo
 na'anqa ti 91. qay'i 92. maa-i/maa 93. qu'wa 94. naango 95. hawanga
 96. haapnga 97. amaa'aa 98. hi'ya 99. pamka 100. qape'i

A.8 Kawacha

1. kwoyava/kwe 2. a'me/api 3. nnyi 4. si 5. ne(maga) 6. nyiwa'nya
 7. munakina 8. msa'a 9. timma 10. lipasi 11. kaatiga 12. maanga
 13. teva 14. suma/isa 15. maanga 16. faaya 17. aamina 18. simega/
 aavya 19. livya 20. kwoma 21. paa(ga) 22. langaaya 23. aavava
 24. yakina 25. fove 26. ke 27. mapiya 28. kaamina 29. singaamna
 30. kwova 31. nagira 32. likima 33. aaya 34. kwaa'a 35. laasa
 36. wora 37. kwawagina 38. tiga 39. sega 40. kwaakuva 41. fi'ya
 42. iga 43. saapinga 44. (yiga) paa 45. livaaya 46. fasia
 47. minavaaya 48. 'a 49. minya 50. mapwiya 51. movinya 52. ma'me
 53. no'nya 54. laaviya 55. navisa 56. wayaavara 57. likumamiya
 58. korumja 59. lisawagara 60. taga'nya 61. yiminsa 62. maangava
 63. laanga 64. minyo 65. aaya minyo 66. kavotagavogo 67. kavankwawo
 68. katigo 69. kaawo 70. kanaapiwo 71. liga wakiwa' 72. liga wakigo
 73. tima wanya 74. (kaatiga) upaa'nyo 75. aaya nunkawo 76. kapiwa
 77. kwaavekwogo 78. taga'nado 79. yavya 80. salaaya 81. tiwakawo
 82. piyagawo 83. tiga galisiwo 84. iya 85. tatave 86. te 87. to'ninu
 88. uwa'na 89. huvaa'u 90. fi'na upankingo 91. pazaawio 92. maa-/mara
 93. (iga)kwaya 94. unkuva 95. liwanga 96. saapanga 97. aa'me
 98. araavya/langa 99. kakimakiwo 100. panewio

A.9 Lohiki

1. avo/waako 2. abaagi 3. ŋna/ndo 4. ndi/ogɪ 5. naaitone 6. aawɪnunu
7. mɪnggaaya 8. ŋdaa(vɪ') 9. aagwaai 10. hamɪ 11. araa 12. maaga
13. aabgwa/aavwia 14. abdi 15. maaga 16. faayu 17. aamigo 18. avgwa
19. avga 20. wamgaya 21. yara(na) 22. taagi 23. aawa/ŋge 24. yanggaai
25. fawa 26. bemgai 27. avgwo 28. aamnggo 29. anaaga 30. aavgwa
31. mna 32. mwovɪna 33. inaaga 34. warɪgwari 35. andaga 36. inamne
37. aai 38. ta(vɪ') 39. umaga(vɪ') 40. waraaga 41. faai 42. iga'
43. avaki 44. yaraana 45. tayo 46. yaainkava 47. inko 48. fave'
49. ŋge 50. pe' 51. yaini' 52. saaigwa' 53. naagoge' 54. toyaavegi
55. taarai' 56. avwa 57. paare' 58. meraai 59. wanaagwei 60. tanne'
61. yamga(va) 62. maagwa' 63. sanko' 64. namda' 65. inaaga namdi
66. erewagu 67. omaagi' 68. dinandi' 69. nawaari 70. namaandi'
71. ya wamdi 72. ewegi' 73. woamdegu 74. ara andegi 75. avaamdi'
76. navwiaari 77. aagana' 78. araavanta 79. ntaga 80. yaayi'
81. ntaankoga 82. namape 83. tava daigerieri 84. ye 85. taaviraavi
86. dade 87. aai 88. fonu' 89. faaina 90. namdinogara 91. naavo'
92. fe- 93. (i)wana 94. mgawe' 95. kapianga 96. avevana 97. avo
98. (iga) avgwe 99. mimagaai 100. navaago

A.10 Menya

1. qoka 2. apaka 3. nyi 4. si 5. ne 6. eqa(na) 7. mnyanga 8. nda/
- mta 9. hingwa 10. hima 11. qata 12. heqwaanga 13. tewa 14. hingoqo
15. maanga 16. hipa 17. aangwa 18. awaqa 19. zuka 20. gwonga
21. hviwa 22. hangeqa 23. haawa 24. yaanga 25. kameqwa 26. qeqa
27. mapa(tiqa) 28. qaangwa 29. qataqweqa 30. qakwa 31. piya
32. haatiqa 33. eqa 34. qwaa 35. hika 36. hika we 37. qwaqwanga
38. ta 39. suaaka 40. wataaka 41. hvanaqa 42. iya 43. huka 44. (yɪ)
- hviwa 45. hivyeqa 46. hawɪqa 47. yinga 48. a 49. qwi 50. hamapaka
51. naaqa 52. waanqa 53. aankwa 54. qwaavqa 55. hangesɪqa
56. qapaaɪqa 57. heaawɪqa 58. waaqwusɪqa 59. hevaatɪqa 60. tɪnanga
61. isɪqa 62. maankwɪ 63. hanga 64. anki 65. eqɪ anki 66. paama/
- qwaama atɪqava 67. qwaama apɪme 68. atɪqi 69. qaanga awɪqi
70. antaapɪqi 71. hiqaqa awɪ 72. hiqaqa awɪ 73. hingwa aɪna
74. qata wɪqi 75. eqa hakɪqi 76. apɪqi 77. havyawa awɪqi 78. ta atavqi
79. yavqa 80. ye 81. tɪqwe 82. ivsɪqe 83. ta hanaqa asɪqi 84. yaaqa
85. qwaapa 86. ta 87. i/e 88. hinkwona 89. hinqwaaqwo 90. naaqinka
91. pɪzaqa apasɪqi 92. ma- 93. quwɪqa 94. naangwɪ 95. hiqwaanga
96. haapinga 97. amaaqa 98. pika 99. pankwɪ 100. apakwanatɪnɪ

A.11 Simbari

1. kwala 2. aampala 3. nivi 4. nkin 5. netona 6. yu'nakata
7. minta 8. mindata 9. simta 10. simputa 11. kaantika 12. maanka
13. kwaavili 14. mparika 15. maamputa 16. aata 17. aaminta
18. simwelika 19. siwla 20. sintika 21. kilaaka 22. minjaaka
23. minarya 24. yankinta 25. nkulasila 26. kaala 27. kwinja/nilya
28. lampaaka 29. silyinta 30. sili'wa 31. mbiruka 32. silaati
33. wanya/aalya 34. kwaaka 35. sila 36. weika 37. munkunta
38. ntika 39. njita 40. kwaankipta 41. puta 42. ika 43. ipulika
44. (i)kilaaka 45. njilika 46. siwiya 47. ntaqati 48. piviya
49. pantapta 50. ntawimanka 51. mpwatinyi/aankita 52. maalika'nya
53. kirorya 54. kimika 55. wayaaka 56. wiya'nji 57. ntingampinyi
58. siwa'nji 59. mpanaangwarynji 60. ntika 61. luku'nji
62. maampaaku'nyi 63. aaya 64. anaantapyi 65. anaantapyi
66. aantaapya 67. namwaalya 68. aantamaayi 69. kaanta aavla'maaya
70. anyaampantapyi 71. saa kwasa 72. kwasa 73. kwonaantapyi
74. ku'nimaayi 75. lampinyaalmolaayi 76. alaqampaantapyi 77. aavlaka
- aavla'maayi 78. tika aanta'maaya 79. yavata 80. yaalkirya 81. ala-
- ('mwaalnti) 82. mpa'nyi 83. wiya anaandapyi 84. ila 85. mpwatanyaanka
86. aqaa 87. aqaasa 88. piri'mina 89. piviraalna 90. kunta
- ninu'nimaayi 91. aaramasimaayi 92. ma- -y/maayi 93. (i)kiwila
94. munkupta 95. siwaanta 96. parampwaaka 97. a'mwa 98. ikili
99. gankaminte 100. nampalmaayi

A.12 Yagwoia

1. kwala 2. aapala 3. nka 4. sika 5. nenkwa 6. helaqa 7. mnakina
8. msaasa 9. hina 10. himsa 11. qatisa 12. maana 13. hyaalsa
14. hilna 15. maana 16. hwalyi 17. aamna 18. aakwiyi 19. kwapitwalyi
20. kwauna 21. aa'mosa 22. msaasa 23. qaaqwa 24. yekina
25. hyaalmauyi 26. qalyi 27. mapya 28. lamnyi 29. hilaqamla
30. qaaula 31. naqaiyi 32. hikwina 33. aalyi 34. kwaasa 35. hekyi
36. wesa 37. kwaana 38. tisa 39. hina tisa 40. kwataala 41. malna
42. isa 43. hula 44. waasa 45. wakyi 46. hyauyi 47. qaikwisa
48. hyekwiyi 49. mna 50. waalapyi 51. imasa 52. maatikwa 53. ilai'na
54. haiwalyaana 55. aalasa 56. kapaai'laalyi 57. pisa 58. waakwulyi
59. hyaukwinyi 60. tikumnyi 61. tapaakumnyi 62. maanyi 63. hyana
64. hisa naatana 65. aalyi natana 66. pala taqona 67. qakmaalana
68. taatana 69. qaana emalyaatana 70. qansapaatana 71. heka olana
72. heka olana 73. hina ukwanaatana 74. qatisa uyaatana 75. aalimla

kwaata'nyi yaatana 76. qapaatana 77. qaula kwotana/kwaatana 78. hisa
79. yawyi 80. yaalsa 81. si'kwaka 82. paaqaka 83. tisa itaatenyi
84. ila 85. pa'naayi 86. te 87. he 88. hi'nkwa'na 89. hulwaaqwi
90. naaqa'nenyi isaqa 91. piyi pakla qaatana 92. 'maya 93. kwiyi
94. nenyi 95. hikwaana 96. saapi'na 97. aa'mnyi 98. hyaulyi
99. ilkwa'mna 100. napakwa'nateqa

APPENDIX B: TEBERAN AND PAWAIA

B.1 Daribi

1. bidi 2. we 3. ena/eno 4. nagi 5. da 6. tigidali 7. tobudu
8. tobudu nizi 9. gedu 10. guni 11. oŋo 12. keli 13. hamiya
14. dogoni 15. gani 16. nogo 17. ami 18. tabi 19. saŋa 20. bogoli
21. tigiwali 22. kanimi 23. ili 24. dili 25. hobulu ge 26. homu
27. giliga 28. podua 29. hq 30. pq 31. tuŋubagi 32. be huli
33. aji/we 34. tq 35. mazigi 36. kemi tq 37. buŋuŋu 38. sia 39. hano
40. kele 41. ty 42. ni 43. pedali 44. ni wali 45. yowi 46. danu
47. ba 48. ba nizi 49. ba ge 50. sygy 51. moni 52. dwaizanu
53. dwagiai 54. bobobagi 55. mama 56. telela 57. sizi 58. seŋa
59. ky 60. pozoŋo 61. keŋau 62. paŋa 63. kezi 64. tubo 65. aji tubo
66. dolalubo 67. dulolubo 68. wabo 69. bilibo 70. mabo 71. pibo
72. pilibo 73. subo 74. oŋobo 75. nogo aji togobo 76. azibo 77. bola
pabo 78. gaŋ kelibo 79. nogi 80. wali 81. de 82. magi 83. dabo
84. ngy 85. kizu 86. e 87. u 88. deleli 89. si 90. konebo
91. elabo 92. meni 93. yabe 94. mi 95. keli 96. dani 97. bidi
98. ge 99. bobo gelazi 100. izibo

B.2 Boro Polopa

1. hwi 2. sou 3. e 4. ya 5. da 6. adima 7. tobo 8. tobu nigi
9. kile 10. foba?ai 11. usani 12. seŋe 13. habe 14. deba
15. foŋabu 16. na?azi 17. aŋwa 18. debe 19. hq 20. bugudŋi
21. seŋa 22. fage 23. seŋa?a 24. daŋi 25. hoza?a 26. segoŋuŋu
27. sugua 28. haŋi 29. haŋe 30. ebo 31. hadi 32. be digiadubo
33. we 34. hai 35. khani 36. adiga 37. sazi 38. si 39. sugudi
40. sisu 41. ty 42. ni 43. ni da 44. seŋa 45. haŋ 46. haŋ dizaŋi
47. ba 48. ba nigi 49. ba ge 50. ya 51. habe 52. nogu 53. uzidabo
54. dui 55. seŋa?a 56. foŋa dabo 57. diŋigi elabo 58. hw 59. diligi
60. sobu 61. siŋi 62. siga 63. gizi 64. nai 65. we nai 66. daŋi

67. beʔai 68. foyadibo 69. foʔoabe 70. mʌnai 71. fidabo 72. fini
 debeʔebo 73. keʔai 74. ozai 75. wɛɪ ana ʔɪfudabo 76. abe 77. siʔiai
 78. tigai 79. doi 80. kagoʔo 81. yadɛ 82. nɔɥwɔɪ 83. beʔiai
 84. dui 85. yo menabo 86. i 87. u 88. mɛ 89. tamu 90. wɛzedabo
 91. dai 92. maibo 93. sogu 94. tebia 95. seʔege 96. nazi 97. hwɪ
 98. du 99. sebi 100. sinanibo

B.3 Sopese Polopa

1. hwɛ 2. ʒo 3. ɛ 4. naʔaɛ 5. tɔ 6. ta:pea 7. topo 8. topo neki
 9. kele 10. fopa ai 11. woleke 12. seʔeke 13. hape 14. depalu
 15. konɔ 16. naʔase 17. awɔ 18. tepe 19. holɛke 20. bokola:
 21. tiki 22. wi 23. pake 24. tɔʔi 25. kosaʔa 26. --- 27. suɔʔa
 28. kasiapu 29. kelemane 30. koa: 31. halepe 32. peʔekidapu 33. ipi
 34. hai 35. kapo 36. kekeʔe 37. dulipu 38. si 39. si lokolapu
 40. sɛdʔi 41. tu 42. ni 43. --- 44. ni a:se 45. hɔɥ 46. tisale
 47. ba 48. ba niki 49. ba ke 50. iya 51. wasi 52. makalamani
 53. wese ʔapu 54. pesi 55. toʔu ʔapu 56. te ʔapu 57. lɛke ʔapu
 58. hake ʔapu 59. --- 60. supu ʔapu 61. seʔi tapu 62. ʔaʔɛ alepu
 63. kesipo 64. nae 65. ipi nae 66. tukuso holae 67. betɛɪ teae
 68. po yae 69. --- 70. menae 71. piaɛ 72. haimo piaɛ 73. kalae
 74. wasae 75. ipi tɔʔa pae 76. ape 77. pelapo 78. nae 79. doi
 80. kapu yalepo 81. dɛ 82. noa honae 83. balae 84. doi 85. tulopo
 86. iape 87. uape 88. petɔti 89. tapala tamo 90. toae ʔapo 91. dae
 92. --- 93. ni saku 94. --- 95. sekɔ 96. naʔase 97. --- 98. ---
 99. bopae eʔatapu 100. sukutapo

B.4 Suri Polopa

1. hwɪ 2. sou 3. ɛ 4. nyɪ 5. dɔ 6. feya 7. dobo 8. dobu nigi
 9. geʔe 10. fobai 11. oʔoge 12. seʔege 13. gonoma 14. deba
 15. konodo 16. nast 17. tigi ʔɪ 18. mogo 19. hoʔoge 20. bogoʔa
 21. sɛgɔɪ 22. fage 23. seʔaʔa 24. dʌʔi 25. ni hosa 26. hosa
 27. teʔeuna 28. haʔi 29. hamu 30. bɛsɛ digi 31. haʔi ni 32. digi
 33. wɪ 34. hai 35. gabo 36. gegeʔa 37. gabo ai 38. si 39. suguni
 40. kɪʔi 41. dɥ 42. ni 43. ni feligi 44. ni sɛgɔɪ 45. hɔɔ 46. hɔɔ
 dizaʔi 47. ba 48. ba nigi 49. ba ge 50. yʌ 51. habe 52. manigani
 53. usi 54. nemi 55. dobu 56. agɛ 57. dʔɪgɪ 58. ʔsɛ 59. dega
 60. subu 61. siʔi 62. faiyanubo 63. gɪsi 64. nae 65. wɪ nae
 66. oʔai 67. dɪyɔɪ 68. fo wai 69. fa 70. mʌnai 71. fidabo

72. fiyamunabo 73. keřai 74. osai 75. aĭ ana fai 76. abe 77. řoabo
 78. nai 79. nimi 80. ařo dabo 81. deye 82. neya 83. degiai 84. dui
 85. hų dabo 86. i 87. o 88. koři sali damo 89. damo 90. osai
 91. ařai 92. me bo 93. sagu 94. --- 95. sega 96. nasi 97. hwĭ
 98. digi 99. kagubo 100. negaiařubo

B.5 Tebera

1. hwĭ 2. sou 3. e 4. nye 5. pheya 6. feya 7. tobuřu 8. tobu nigi
 9. kale 10. gunumu 11. ozini 12. sega 13. habi 14. dobadigi
 15. fonamu 16. nasi 17. ami 18. mogo 19. ho 20. bogořa 21. segaĭ
 22. fe 23. seřa 24. duli 25. dqyda 26. hoda 27. ye 28. koi
 29. ořa manu 30. basugu 31. hwa 32. be susigi 33. weĭ 34. hai
 35. kabo 36. bq dų 37. habagi 38. si 39. sugudi 40. sedu 41. dų
 42. ni 43. peřege 44. ni segaĭ 45. haq 46. dizaři 47. ba 48. ba nigi
 49. ba ge 50. sygy 51. we 52. famini 53. uzi 54. figařabo
 55. segaĭguři 56. segeřizi 57. digiguři 58. soaguři 59. soaiguři
 60. sobuřu 61. sudoři 62. odi hořařařubo 63. gezi 64. nugidabo
 65. we nugidabo 66. hqlabo 67. --- 68. duidabo 69. beředabo
 70. manai 71. feduidabo 72. haibo 73. gulizidabo 74. ozodabo
 75. weĭ anazuidabo 76. wowidabo 77. dogwahidabo 78. sigana humuai
 79. diai 80. bazugowidabo 81. hĭdie 82. nenai 83. dugidabo 84. dui
 85. hogořo 86. i 87. sařidona 88. mezazibo 89. dabada damubo
 90. dyedaba 91. duidabo 92. myibe 93. sogu 94. mi 95. segaĭ
 96. segaĭ 97. hwĭ 98. famani 99. doguaiyai 100. sinugudabo

B.6 Uraru Pawaia

1. dřařala 2. u 3. ane 4. une 5. nqle 6. neřeye 7. mu 8. muse
 9. to^u 10. ho 11. neĭ 12. su 13. hapi 14. bqřa 15. me 16. neme
 17. emi 18. siwo 19. siři 20. opo 21. heře 22. sy 23. ---
 24. dřeme 25. me apo 26. su 27. sia 28. we 29. nařu 30. hali
 31. dřa 32. siřino 33. sa 34. sořo 35. topu 36. soadu 37. sořo
 pořodu 38. sia 39. sopo 40. sia dřuřu 41. sy baiamo 42. i 43. i
 sořoyu 44. i heře 45. he 46. tu 47. ge 48. ge dřuři 49. ge dřu
 50. sai 51. hoite 52. baiamo 53. me adi 54. esaoi 55. sene adi
 56. sopadime 57. apume 58. subome 59. si ebime 60. hopiye 61. nemi
 62. hu meřyqwe 63. dřeře 64. ti hařaye 65. eye 66. eya aiye
 67. ewa aiye 68. hi enuwe 69. tořo nqwe 70. ipoiye 71. dřeři aiye
 72. sořo řořiye aiye 73. heřowe 74. neĭ heřowe 75. sa sořořawe
 76. nauwe 77. ke nouwe 78. dřo waiye 79. heřepi 80. si ařiye 81. ma

82. noi 83. homunai 84. po 85. hoiteye 86. o 87. inie 88. pe'emi
89. na'au 90. ho aiyē 91. dža anawawe 92. o'o 93. i nesi 94. na'aře
95. mekapo 96. mauneme 97. dža'aťa 98. bopeni 99. sube'eři
100. ořawe

APPENDIX C: BOSAVI-KUTUBUAN

C.1 Fasu

1. aporo 2. hinamo 3. ano 4. ne 5. tati 6. eu 7. wamo 8. uni iti
9. hi 10. sape 11. senaki 12. mere 13. alu 14. mawi 15. akae
16. hokono 17. hoko 18. katukunu 19. korake 20. kakuna 21. kau
22. yapi 23. wu 24. kiki 25. himu 26. kasoko 27. maiya 28. heke
29. makata 30. pakae 31. yao 32. ereamo 33. he 34. hauwaka 35. eke
36. tekima 37. uli 38. ira lufi 39. ira musu 40. katema 41. ikia
kara 42. ira 43. pikinu 44. ira kau 45. kasa 46. keno 47. mena
48. mena iti 49. mena hai 50. pokwa 51. kara 52. wakasema
53. kotesa 54. horopo 55. susa 56. pakaesa 57. pikirisa 58. kiamesa
59. hisukusa 60. inasa 61. inusa 62. komalu 63. kawe 64. anene
65. anene 66. ale 67. akaiye 68. someraka 69. korakare 70. akare
71. aware 72. aware 73. asere 74. kairaka 75. alore 76. apere
77. apure 78. amano alure 79. yano 80. parosa 81. epa 82. yakapa
83. lufiane 84. yapani 85. mukisa 86. one 87. ane 88. meno
89. teta 90. kairaka 91. alure 92. wai 93. ku 94. maiya
95. ausiriki 96. kitafene 97. aporo 98. ira hai 99. mamusa
100. akure

C.2 Foe

1. amena 2. ka 3. nano 4. na'a 5. iya 6. sunage 7. a'uhai
8. usə 9. iy 10. sabei 11. yo k'hiya 12. ti 13. au'fu 14. ka'iko
15. ko 16. ya 17. qəq 18. pa'ko 19. tam 20. kiki 21. ka'ko
22. wəlia 23. k'ha'khu 24. khikhi 25. gəmy'yu 26. ku'yuy 27. i'fiyapo
28. he'ke 29. o'owəpe 30. tu'fupapo 31. khalkhi 32. genemo 33. ipu
34. gi 35. k'han 36. su'fali 37. tuma 38. i'fa 39. mu'zu 40. k'anuma
41. i'ka 42. i'fa 43. i'fa ka 44. i'fəkhə'o 45. kes 46. ya k'həpə
47. ya' 48. ya sa'i 49. h'i 50. yegi 51. pə'fei 52. mənə 53. wəsi
54. wasə'o 55. dəbu'fa 56. fa'bo 57. bu'zu 58. kəme 59. bu'zu

60. sisibu 61. kokobu 62. khonlbaʼai 63. ʼisq 64. niyæi 65. nqbo
 baʼa 66. yeʼl hɿ 67. eʼe keʼlɿ 68. yotasetəʼae 69. biye 70. giyæ
 71. ʼasa yibu baʼa 72. yi keʼlɿ 73. eʼiyæi 74. nisibubaʼai
 75. yaʼa hoye kheʼabo baʼai 76. wæi 77. yaʼububaʼai 78. huniya
 79. yapo 80. ho 81. ibuke 82. nomage 83. inikhiribaʼai 84. tɿlɿ
 85. poʼie 86. tʼho 87. tʼha 88. menəʼqe 89. haʼqe 90. kɿməpuge
 91. yaʼa hububaʼai 92. wae 93. iʼl ɿi 94. meʼi 95. meʼe 96. yagi
 ʼape 97. amena 98. haʼi 99. habɿlu 100. yaʼa khukhe

C.3 Kaluli

1. kalu 2. ga/kesari 3. ne/ni 4. ge 5. --- 6. tɿbo 7. mise
 8. mise foon 9. si 10. migi 11. malo 12. beso 13. sano 14. dagaso
 15. maa koof 16. ban 17. bo 18. kuf 19. gidaafoo 20. kulau
 21. toogoof 22. hooboo 23. kuf abayo 24. ki 25. himu 26. yook
 27. of 28. ili 29. tamin 30. kol (?) 31. hoon 32. nulu 33. hoon
 34. hen 35. u 36. hen 37. hendagom 38. de 39. de hoomoon 40. dufun
 41. tok/sog 42. i 43. tif 44. toogoof 45. gasa 46. wafi (?)
 47. oobaa/oloone 48. oobaa foon 49. us 50. kaa 51. ɿlɿn 52. haalu
 53. nafa 54. tambo 55. genelo 56. hoolo/gaalaadoo 57. hiyoo
 58. wanalo 59. imole 60. ofab 61. hidab 62. waalafoo 63. hoogi
 64. maya 65. hoon maya 66. dasima 67. mesea 68. sama 69. hamana
 70. dimina 71. alima 72. alima 73. booba 74. dabuma 75. dasema
 76. mena 77. iwalu hanap 78. mabuluma 79. wi 80. kalaido 81. abe
 82. ooba 83. deyoo/maya 84. fe 85. modoo 86. we 87. --- 88. angel
 89. ɿdeb 90. asulap 91. sandap 92. --- 93. foos 94. ho 95. ---
 96. gaasin 97. kalu 98. uʼ 99. --- 100. sowab

C.4 Kasua

1. senae 2. kesare 3. newa 4. newakiye 5. niwakiye 6. hirirakiye
 7. pesai 8. pesaifano 9. si 10. mi 11. kenane 12. apa 13. tepe
 14. timoko 15. meapo 16. tiare 17. po 18. ipura 19. onatu
 20. kuliau 21. kapo 22. pepeta 23. anemaeusu 24. ki 25. kupu
 26. hau 27. opo 28. opo 29. samisara 30. --- 31. moai 32. nukurano
 33. hano 34. moai 35. etoa 36. iti paiya 37. tokomo 38. homatos
 39. omatoa 40. tamunu 41. isu 42. tai 43. warofo 44. kapo
 45. kasoro 46. itiame 47. anemae 48. anemaefano 49. natape 50. turu
 51. sosoro 52. korotea 53. naporapo 54. senapo 55. kene 56. ---
 57. nopia 58. kiara 59. kik faro 60. tarirakiye 61. kokorowarupe
 62. waruyatikiye 63. hirikiye 64. kinatapo 65. nakiye 66. erape

67. hepese 68. serakiye 69. sisarape 70. potatapo 71. aniape
 72. aniape 73. inatapo 74. tatarakiye 75. aporseamo 76. fai 77. ---
 78. sanatapo 79. --- 80. taropea 81. yipo 82. enana 83. hinakiye
 84. arupai 85. hirirakiye 86. werakiye 87. eparajute 88. tekeape
 89. --- 90. --- 91. senatapo 92. inamatina 93. ifaro 94. sapu
 95. --- 96. onatu 97. senai 98. --- 99. --- 100. kurutapo

C.5 Namumi

1. abano 2. hinamu 3. anuni 4. ni 5. su 6. abonakaiya 7. unahaie
 8. unahai iti 9. hi 10. sapasuma 11. sinaeki 12. akai 13. airu
 14. koropiri 15. akai kiri 16. hokanu 17. hotu 18. haripa 19. kofai
 20. kukunai 21. kau 22. kakusa 23. sawi 24. kiki 25. himu
 26. kasiako 27. iya/maiya 28. hiki 29. iya putini 30. aku 31. iya
 32. iya idi 33. hi 34. hauka 35. iki 36. sorari 37. uri 38. irə
 kipu 39. irə musu 40. kanaku 41. iyakarapabu 42. ira 43. irə bikinu
 44. irə kau 45. kasa 46. kasa kinu 47. minai 48. iti 49. hai
 50. poka 51. kaiya 52. pabu 53. bisai 54. horopo 55. piti
 56. saufia 57. kimusa 58. saririsa 59. saisaia 60. sisibu 61. inu
 62. komurusai 63. kawi 64. nesi 65. hi nesi 66. tahisi 67. asikayae
 68. sumisie 69. pusie 70. makasie 71. wara kabu 72. wari kinabu
 73. asiabu 74. kai abu 75. tabusie 76. piaie 77. minai py 78. nisie
 79. iyanu 80. noriapo 81. epare 82. yakabare 83. --- 84. ---
 85. kaiya 86. nani 87. wari nani 88. hakasa 89. tita 90. ---
 91. --- 92. fa 93. ira gu 94. maiya 95. meri 96. kipi sikini
 97. --- 98. sy yahai 99. hi 100. i kuabu

C.6 Bainapi

1. sau 2. tawae 3. nane 4. gage 5. --- 6. iniguto 7. dagata
 8. bisikaka 9. usa 10. demu 11. kosoropa 12. beserepa 13. metata
 14. akaro 15. karao 16. tapi 17. burukopa 18. kupa 19. tupa
 20. gutu 21. baw 22. baripa 23. kinikiniau 24. ki 25. soroakua
 26. sukuno 27. nane 28. irepe 29. bepearai 30. --- 31. daiegisiu
 32. dapo 33. daiya 34. e 35. kao 36. siapuri 37. bati 38. darau
 39. suara 40. --- 41. iti 42. besa 43. kesi 44. boa 45. sapo
 46. korokawa 47. meta 48. kaka 49. motakapa 50. kaipi 51.-100. ---

APPENDIX D: STRICKLAND-BOSAVIAN

D.1 Agala

1. or 2. sobasie 3. ame 4. name 5. abe 6. gogonda 7. widua
8. wigiduae 9. diho 10. go 11. du 12. maeow 13. e 14. gobagi
15. difogo 16. dabogo 17. bu 18. sasimi 19. abogo 20. ebuton
21. golo 22. iyou 23. sofe 24. dio 25. solo 26. habe 27. aso
28. oguao 29. gudiahā 30. mabi 31. hoidaru 32. bongongulu 33. hoi
34. oso 35. yaw 36. hoifasiga 37. bogahai 38. dou 39. dae
40. dahae 41. ili 42. habe 43. habedafe 44. habegolo 45. sou
46. biao 47. siu 48. dowe 49. sioho 50. maye 51. kouda 52. yafe
53. de 54. sogowai 55. ayaw 56. adodigi 57. bishodigi 58. biyao
59. biae 60. defi 61. djeo 62. amai 63. aeyo 64. nale 65. hwe
nanu 66. dofara 67. biaiae 68. tobo 69. orli 70. a neyou
71. dialu 72. diaiae 73. anduguyou 74. andulu 75. hoyanuli
76. huguruyou 77. gobayali 78. bofan 79. husolo 80. fofai
81. gomeko 82. gamekae 83. dohugi 84. ou 85. kowi kowi 86. gomedae
87. game 88. dano 89. balo 90. atowe 91. gaba wala ngu
92. gelegelemi 93. habe gua 94. hwi 95. --- 96. gati 97. o
98. habe fosage 99. shinemgi 100. daladigil

D.2 Biامي

1. tuny 2. uda 3. na 4. ti 5. nini 6. soiyag 7. taluba 8. hinabo
9. sii 10. mi 11. ke 12. pese 13. konasu 14. osqgqwa 15. laafi
16. nabu 17. toto 18. hagqmo 19. emo 20. imugumu 21. kadofo
22. heale 23. sefe 24. kasa 25. togo 26. --- 27. eso 28. awbi
29. gosomuni 30. muu 31. kiibu 32. kasi 33. hālo 34. osobo 35. kele
36. bosukai 37. kaumi 38. dalu 39. kinā 40. dasubu 41. loogo
42. ifa 43. tifi 44. ifa kadofo 45. wami 46. lago 47. māni, hega
48. hinaabo 49. oso 50. minabu 51. bagade 52. fəŋqbohadi 53. tefeya
54. setaga 55. obusi, urasu 56. ahiya 57. bunumai 58. buq

59. moladugwq 60. kiyayi 61. anegqggi 62. naba 63. gaheãbõrõ
 64. na-imo- 65. halq na- 66. le- 67. fi- 68. sia- 69. ahwa-fasi-
 70. i- 71. mita- 72. kola- 73. pala 74. bæ- 75. halq ub- 76. mi/ma
 77. awgia dabe 78. kasume- 79. dio 80. hougisi 81. nãwã 82. adi
 83. kobe- 84. imu 85. oseyyey 86. ko 87. kwe 88. afãj 89. aduna
 90. tawa- 91. fã- 92. name 93. lubi 94. hy 95. --- 96. ifĩ 97. ---
 98. oso 99. ganugãma 100. bogo-

D.3 Bibo

1. os 2. uliya 3. ɔwo 4. no 5. oyo 6. husgab 7. ulukib 8. otowa
 9. hiqw 10. mina 11. dul 12. mqi 13. il(i) 14. gofigib 15. magalu
 16. dob 17. tol 18. sas 19. homo 20. mɔgɔ 21. sib 22. sqhqu
 23. bqñq 24. kib 25. solof 26. kolof 27. ɔs 28. aib 29. gosomoli
 30. wau 31. hqɔ 32. gosigiali 33. hqɔ 34. osob 35. yo 36. bebes
 37. bihay 38. dolu 39. dem 40. do suf 41. oli 42. homu 43. tof
 44. --- 45. sof 46. tulu 47. sigo 48. towa 49. holo 50. diyo
 51. gau 52. gaumigu 53. de 54. sag 55. obis 56. seguwab 57. bɔs
 58. bebelogum 59. molo 60. doyf 61. tɔyo 62. moidedaga 63. duwaif
 64. na- 65. hqɔ na- 66. tafola- 67. buo- 68. hwaiya 69. du- 70. ne-
 71. kie 72. kie- 73. ogo- 74. dũ- 75. tolofulo 76. ama-
 77. funduwalo 78. gala 79. hũ 80. hafoi 81. kumiba 82. ka
 83. tologwiya 84. om 85. gqgq 86. ke 87. ka 88. dob 89. behinqw
 90. duwi 91. ɔ- 92. moi 93. gwob 94. hɔj 95. --- 96. kaliyo
 97. --- 98. kol 99. --- 100. golo-

D.4 Honibo

1. os 2. uliya 3. ɔ 4. no 5. oye 6. susugab 7. uligib 8. utowa
 9. hiyo 10. mɔni 11. dulu 12. moi 13. ili 14. gofigib 15. mogof
 16. dub 17. bu 18. sasi 19. hom 20. ibili 21. kolof 22. sahau
 23. bqñ 24. kib 25. solof 26. hoib 27. ɔs 28. ogwa 29. gosomoi
 30. ogaib 31. hqɔ muwadau 32. gois 33. hqɔ 34. mohqj 35. yo
 36. bebes 37. gouk 38. dolu 39. dem 40. dosuf 41. oli 42. homoi
 43. motof 44. kolof 45. sof 46. milu 47. si 48. towo 49. hol
 50. diyo 51. gau 52. gau moi 53. duwe 54. sagati 55. obuste
 56. olote 57. busɔte 58. buwɔte 59. molote 60. doif 61. kogosido
 62. moyodonomaimdo 63. dwaif 64. nowal 65. hqɔ nala 66. tofowe
 67. buwoboson 68. hwala 69. surobosom 70. ne 71. kiyala 72. keyaiye

73. ogoibu 74. duwa 75. tofuwago 76. omade 77. fudiyago
 78. olwadabasom 79. hɔti 80. hafoido 81. kɔmbo 82. kaba 83. giyatugwe
 84. om 85. susugab 86. ke 87. hegoge 88. helehai 89. bɛnabugu
 90. towe 91. tola 92. moi 93. dib 94. hwɪ 95. --- 96. kai 97. os
 98. kol 99. fugɔsoma 100. tola

D.5 Onabasulu¹

1. inoro 2. ido 3. na 4. ka 5. nini 6. sunia 7. kuni 8. alu
 9. si 10. mi 11. koneni 12. pese 13. eane 14. (gifigi) 15. (mofaio)
 16. sone 17. bu 18. kuf 19. emo 20. (emo hogulumo) 21. tomola
 22. ibi 23. safe 24. kiwi 25. sogo 26. yagu 27. haro 28. auba
 29. (sigabe) 30. keni 31. hele 32. nigiliba 33. hano 34. hele
 35. abane 36. (bose) 37. gali 38. de 39. (dekaua) 40. (dewoiya)
 41. eno 42. i 43. efoto 44. i tomala 45. gesu 46. (wafe) 47. haga
 48. hoga alu 49. hokaisu 50. hani 51. bihe 52. wadino 53. nafulu
 54. sedale 55. kenelu 56. holu 57. yabulu 58. wanolu 59. imorolu
 60. harofe 61. badife 62. (wasigafe) 63. hili(?) 64. namena
 65. namena 66. --- 67. mesa 68. sama 69. --- 70. mema 71. hane
 72. (faisuisosu) 73. bama 74. doma 75. (hanodasasu) 76. mila
 77. haubaafe 78. mubagasu 79. wi 80. (falalu) 81. abe 82. ena
 83. (denambasamu) 84. (fe) 85. bule 86. ewe 87. amo 88. agale
 89. aganebo 90. (dawalife) 91. tuma 92. -ale 93. walu 94. hu
 95. --- 96. sone (?) 97. inoro 98. tubo 99. (yadulu) 100. oralu

D.6 Kubo

1. o 2. sobo 3. ʒ 4. nɔ 5. oye 6. ɡɔɡɔ 7. wodiyo 8. wodiyo toi
 9. dihq 10. mi 11. du 12. moyo 13. i 14. gobaidiyu 15. mogau
 16. dobogo 17. bu 18. gosiyo 19. obogo 20. yubu 21. kolo 22. ayo
 23. sofe 24. diyo 25. soo 26. koo 27. ɔsɔ 28. ogwa 29. gosomoi
 30. ogabi 31. hwɪ tolodo 32. ɡɔsɪ 33. hwɪ 34. oso 35. yo 36. kowɛ
 37. tɔfɔ 38. dou 39. dahaj 40. dasago 41. ai 42. home 43. tofe
 44. biyo 45. so 46. hobe 47. siyu 48. toi 49. hoo 50. diyo

¹ Items in parentheses indicate late additions to the list which are not included in comparison with other lists.

51. kau 52. fāfi 53. de 54. sago 55. osiko 56. kowoko 57. bowogo
 58. biyeko 59. moeko 60. dofi 61. tǐ 62. qmēde 63. dwau 64. naiyo
 65. hwǐ naiyo 66. tofādiyo 67. diyobodiyo 68. toboidyo 69. sudiyo
 70. ā neiyo 71. tiyaiyo 72. tiyādiyo 73. diguiyoy 74. duiyo
 75. tqiyo 76. hogwaiyo 77. fuwoyqiyo 78. gaaiyo 79. hūti 80. hafodo
 81. komaba 82. boda 83. hobeyotoiyo 84. qy 85. gqgq 86. ke 87. ka
 88. tano 89. beyāy 90. towāiyo 91. toiyo 92. moi 93. dubi 94. huwǐ
 95. --- 96. kai 97. oso 98. koo 99. --- 100. toiyo

D.7 Samo

1. ouson 2. sobo 3. ā 4. no 5. oye 6. gqygqy 7. ulagibi 8. otowa
 9. hǐyowo 10. mǐni 11. duli 12. moyq 13. mēnemāni 14. gobagibi
 15. mogalu 16. debe 17. bu 18. sasi 19. homo 20. ibulu 21. kolofu
 22. ayu 23. bqng 24. kibi 25. solufe 26. hobe 27. osq 28. ogwa
 29. gosomqni 30. ogabi 31. hqy munu 32. gqsǐ 33. hqy 34. mohqǐ
 35. yo 36. bobose 37. golwu foda 38. dolo 39. dahǐ 40. dosobu
 41. ali 42. home 43. toufe 44. bisigobu 45. sofū 46. houbē
 47. sigo 48. towō 49. holō 50. diyo 51. kau 52. fēyāfo 53. de
 54. sago 55. obusite 56. olowate 57. busǐte 58. biyete 59. molowate
 60. dofi 61. tǐ 62. moyotonomado 63. dwafi 64. nǎla 65. hqy nǎla
 66. tofola 67. buwola 68. hwāna 69. suda 70. nēla 71. kiyala
 72. kela 73. ogola 74. dula 75. tolofiyaila 76. hugala 77. fulumaila
 78. goda 79. hūti 80. hafodo 81. kyba 82. koboba 83. gitoulogwa
 84. qy 85. gqygqy 86. ke 87. ka 88. helenu 89. bēnau 90. towe
 91. tola 92. moi 93. dibi 94. hwqǐ 95. --- 96. kali 97. oso
 98. kolo 99. fugqsama 100. tola

APPENDIX E: KIWAIAN

E.1 Anigibi Kiwai

1. 'dubu 2. 'o·bo 3. mo 4. no 5. 'nimo 6. tuni'ʔʔʔ 7. epu·
8. 'múʔo 9. i'dóma·i 10. 'vódi 11. e'p:ʔto 12. 'gíli 13. tótoʔope
14. 'má·ʔu 15. 'pú·ʔo 16. ʔ'dfo 17. 'á·mo 18. nu'ló 19. ʔōt:ō
20. 'pópu 21. tʔí·má 22. o'ʔá (o'lá) 23. 'gági 24. 'éʔume
25. 'ŋgíʔepu 26. 'bé·lu 27. i'vfo 28. ga·'ʔúmu 29. go'gáve
30. o'móʔomu 31. 'viʔai 32. 'dú·ʔi 33. o'obó 34. e'pú 35. kʔ'na
36. vio'épu 37. 'noʔoa 38. e'lá· 39. ʔ'uta 40. tuʔ'ó 41. gʔ'bó
42. 'núʔʔ 43. 'tútu: 44. 'núʔʔtama 45. u'mú 46. 'nú·pu 47. 'vo·voʔo
48. vo'voʔo muʔo 49. 'fopa 50. na: 51. 'ge·ga 52. 'keʔi· 53. 'mé·ʔʔ
54. tutu: 55. o'la·ʔolá 56. bo'góbógo 57. 'ídi'ʔidi 58. bʔ'ʔoiyʔ
- bʔ'ʔoiyʔ 59. moru'gó 'moru'gó 60. 'elaila 61. guʔ'o· 62. puʔʔato
63. 'éio 64. 'ú:ʔo 65. 'fdio 66. e'ftidia 67. 'emi'ʔe· 68. a·ʔo
69. ó'da·u 70. ʔʔ 71. ʔ'ʔo'bu 72. ó'ʔo· 73. 'é:ʔʔ 74. 'ivʔ'ʔvndia
75. 'a:bu 76. 'o:ʔu 77. 'iru'muai 78. 'ʔtia 79. 'painʔ 80. 'tʔtoʔʔ
81. bo'ʔú·ʔie 82. nʔ'ʔú·ʔie 83. i'ládi 84. 'nfmó 85. i'ló ilo
86. mʔ'ná·lie 87. 'áwʔʔe 88. 'gá·ʔu 89. 'né:t:ʔʔ 90. u'mó
91. iʔ'táumu 92. 'bfa 93. pʔ'ʔʔ 94. 'fʔo 95. ke'bá·ʔi 96. mudε'bé·
97. 'ó·bi 98. 'uʔʔ 99. ko'pʔ 100. ʔ'dau

E.2 Bamu Kiwai

1. dubu 2. worobo 3. moʔo 4. oro 5. nimo 6. nio siyose 7. heputa
8. sobo 9. idimaliopu 10. punugo 11. gare 12. ibonoro 13. otopele
14. mau, turuturuʔo 15. matago 16. tuipi 17. amo 18. nilo
19. saʔiro 20. kaʔhio 21. tama 22. saʔwi 23. dau 24. soro
25. giropu 26. beu 27. saiki 28. sogo'mi 29. suli 30. tobore keʔikeʔi
31. wesare 32. duwo 33. obo 34. sopu 35. depane 36. nori 37. podo
38. ela 39. gahua 40. panesea 41. gabo 42. ota 43. sipi 44. tama
45. soka 46. wapo 47. pawa 48. musua 49. iyopo 50. nakere

51. aunaie 52. kaina'i 53. parapa'ie 54. tuturu 55. kaima karima
 56. kea 57. gare gare 58. ago ago 59. --- 60. korosa 61. kukamu
 62. --- 63. orio 64. iho 65. odio 66. otoboa 67. omi 68. aro
 69. --- 70. omia 71. u'wo 72. utua 73. ea^uri 74. irowidiro
 75. iowa 76. oro 77. --- 78. --- 79. masiro 80. wapamotato
 81. otura 82. didara 83. --- 84. nimo 85. siriole 86. no^uwe
 87. io 88. nopote 89. notatepo 90. umoro 91. opia 92. puai
 93. poara 94. dau 95. --- 96. --- 97. dubu 98. iopu 99. ---
 100. arapora'i

E.3 Gibaio Kiwai

1. 'dúbu: 2. ò:bò 3. mo· 4. no 5. ni'mó 6. 'tunio'ha: 7. ε'púu
 8. epu'ú muho 9. i'dlu'ma:i 10. 'mó:di: 11. he:p:a:t:o 12. 'fbō:ne:
 13. t:o't:ò:bē: 14. 'má:ʔu 15. 'má:t:ʌ 16. tu'ú 17. 'á·mō:
 18. 'dou'pi: 19. ot:o 20. po'p:ú 21. tʌm'má: 22. o'ʔá: 23. 'gá:gí:
 24. 'hʂʔō: 25. 'kʌu'kʌu 26. m'beʔu: 27. hi'ʂfo 28. o'ʂé 29. 'pʔu
 30. o'mó' o'mō 31. 'wíha: 32. 'dúò 33. o'ʂó 34. tótó 35. nʌ'ʔóʌ
 36. wíó 37. no'ʔo:a 38. ε'ʔa: 39. ku'tú 40. tuʌ'ʔó 41. ga:'bo
 42. 'nú:ʔʌ 43. 'hí'p:i 44. tʌm'má: 45. u'mú 46. 'wá:po 47. wowʌ'ʔó
 48. wo'wʂʔo muhō 49. 'húʔa: 50. ná: 51. 'hú:'na: 52. ke:'híbuʌ
 53. 'mɪʌha:kʌ 54. tutúu 55. o'ʔʌ o'ʔa: 56. bo'gó bo'go 57. 'i'di'ʔi:di:
 58. 'deʔʌ'deʔa: 59. wago'ʌ tʌma: 60. ε'ʔʌʔa: 61. 'ŋgúʌ'ʔō:
 62. a:'tēa: 63. 'ói'o 64. 'ího 65. idio 66. 'éibuʌ 67. ε'idiō
 68. 'a'ʔo 69. o'tʌ'u: 70. ha· 71. ʌ'ʔou 72. u'ʔtʌ'a: 73. 'iʌ'a:
 74. ʌbʌ'ʔóʂidi'a: 75. 'óʔuo 76. 'ó:wa: 77. 'ébuʌ: 78. ʌde'dé:
 79. 'pa:in'na: 80. tuwá·tu'wa· 81. mbo'ʔuʔa: 82. nʌ'ʔúra: 83. á:'do:
 84. 'nfm:ō: 85. 'hiʔohi'ʔá: 86. 'naí'de: 87. nʌ'ʔēʌi'ē: 88. kʌ'ʔubuo
 89. neʔoʌti: 90. u'mō: 91. i'pá'i'a: 92. bíʌ 93. pʌ'há: 94. 'híʔō
 95. huwa: 96. kiki'úpi: 97. 'dubu 'ó:bò 98. 'kéke: 99. ko'pí:
 100. o'da·u

E.4 Gope Kiwai

1. dubu 2. obo 3. mo 4. lo 5. nimo 6. turiyaha 7. epu 8. epu muhu
 9. itomai 10. modi 11. hepa:to 12. giri 13. totobe 14. giēpu
 15. pu'ʔo 16. tuhu 17. amo 18. nio 19. oto 20. popu 21. tama
 22. ora: 23. ne'emu 24. horo 25. kaukau 26. beru 27. himio 28. ome
 29. oro, io 30. tumo 31. mihai 32. duo 33. obo: 34. hepu
 35. no'ʔoapi 36. kamara 37. no'ʔoa 38. era: 39. ahuta 40. tuo'ʔo

41. gabo 42. nu'a 43. hipi 44. tama 45. umu 46. umu mapo 47. momo'o
 48. kami 49. hura 50. na: 51. kema 52. kehibu 53. me'aha 54. tutu:
 55. oratoti 56. bokoboko 57. wibuwibu 58. borou-boroyu 59. tata
 otama 60. elaela 61. guga'o 62. arala owai 63. oio 64. iho 65. idio
 66. oto'a 67. emi'e 68. a:o 69. iwadaai 70. ai 71. uro 72. orobu
 73. e'a'a 74. oroidio 75. oru'o 76. o'u 77. irumo 78. atia
 79. pai'fa 80. toatoa 81. bo'o 82. na'u 83. adia 84. limo 85. hiro
 hiro 86. a'fa 87. a'o oirie 88. ga'ubuo 89. neto'a 90. umo
 91. wadomodi 92. bia 93. paha 94. nahi'o 95. kebare 96. kakapi
 97. mere 98. hura 99. opi 100. ihiai

E.5 Island Kiwai

1. dubu, didiri (pl) 2. arobo upi (pl) 3. mo 4. ro 5. nimo 6. imeime
 7. epuru 8. epuru muso 9. damari 10. wodi 11. gare 12. lawa
 13. wototorope 14. ma'u, turuwotururuwo 15. magota 16. tu 17. amo
 18. dopi 19. sairo 20. popu 21. tama 22. arima 23. kasawo 24. soro
 25. giroopu 26. beu 27. sa'i 28. sagana 29. gugi 30. bubuere/tobore
 31. moburu/wiawia 32. duwo 33. obo 34. duriomoro 35. kuraere
 36. nori 37. auwo damera 38. era 39. tema 40. tuwo 41. gabo 42. ota
 43. miti 44. ota tama 45. sio 46. wapo 47. wowogo 48. pasa 49. iopu
 50. irisina 51. auwo 52. sobo 53. wade 54. tuturu 55. dogodogo
 56. kea 57. wibu 58. agoago 59. poroporo 60. eraera 61. guba doro
 62. orosuwo 63. orio 64. oruso 65. odio 66. otobowa 67. omioi
 68. arogo 69. arao 70. agiwai/owosa 71. uwo 72. utua/orou 73. eauri
 74. irovidiro 75. dami dami 76. ogu 77. arubo 78. otoobo 79. paina
 80. o'o'o'ori 81. beturo 82. beda 83. ara'aruti, opuodoi 84. nimo
 85. sirio 86. no/ni 87. gi/ginaro 88. nau 89. netewa 90. umoro
 91. opia 92. pai 93. pasa 94. wasina 95. oro 96. igiri 97. dubu
 98. kaema 99. bo'o 100. orisiai

E.6 Kerewo Kiwai

1. dubu 2. obo 3. mo 4. lo 5. imo 6. awoha 7. sono 8. ho'obo
 9. idomai 10. wodi 11. hepato 12. iyopai 13. mototobe 14. go'o
 diholo 15. pulu'o 16. tu goho 17. amo 18. niro 19. kono 20. popu
 21. tama 22. sawi 23. gabe 24. horo 25. gi'opu 26. beu 27. hewio
 28. bara 29. hu'fi 30. ori 31. wiha 32. duo 33. obo 34. hopu
 35. akábu 36. nori 37. akábu 38. kupo 39. omo'omo 40. tuo 41. nabe
 42. nu'a 43. hepi 44. tama 45. kaukau 46. wapo 47. phahagama

48. gubo 49. i'opu 50. na: 51. a^uwo 52. kekebo 53. meha 54. tutu
 55. kaikarapi 56. bohoboho 57. webuibo 58. --- 59. pitama
 60. enaena 61. o'uto 62. arara 'ohuai 63. olio moto 64. iho 65. idio
 66. oto'a 67. emi 68. ara 69. o'o 70. imairo 71. uwo 72. uta'a
 73. e'auri 74. orobodio, irovidio 75. omoru'o 76. o'uro 77. odau
 78. adide 79. paena 80. tata 81. boti 82. tonali 83. imadia
 84. nimo 85. godo godo 86. noli 87. baino rie 88. na'ubuo
 89. ne'ewa 90. umo 91. aro 92. biahai, raihe 93. paha 94. nahi'o
 95. gebate 96. giribari 97. mereha 98. i'opu 99. ka'e'e 100. oihiai

E.7 Morigi Kiwai

1. dubu 2. olobo 3. mo 4. lo 5. nimo 6. awohemi 7. epolu 8. epolu
 paha 9. itamali 10. wo^odi 11. hepate 12. ibonolo 13. wototorope
 14. gogodi 15. magota 16. tu 17. amo 18. hiro 19. kota 20. popu
 21. tama 22. savi 23. gabe 24. holo 25. беру 26. beu 27. hivio
 28. ba'ila 29. pide 30. tuboro 31. wihale 32. duo 33. obo 34. hopu
 35. akapu 36. wio 37. akapu opi 38. ela 39. ela gahoa 40. ---
 41. gabo 42. no'a 43. no'a hepi 44. no'a tama 45. umu 46. umu wapo
 47. wowogo 48. wowogo paha 49. i'opu 50. na 51. awo 52. kaina
 53. bisiaheme 54. tuturu 55. werewere 56. kasikasi 57. wibo wibo
 58. gale meretamo 59. pitama 60. ena ena 61. u'uto 62. tawape'e
 63. olio 64. aha 65. idio 66. otopo 67. omio 68. alogo 69. ogu
 70. oha 71. uwo 72. ololo 73. e'auli 74. erevidio 75. olu'o
 76. o'ulo 77. amai'ae 78. oruho 79. paena 80. kololo 81. otue
 82. etunae 83. emadia 84. nimo 85. godogodo 86. nolo 87. oilie
 88. na'o 89. netowa 90. umolo 91. opia 92. puai, biahai 93. paha
 94. nahi'o 95. --- 96. gilibali 97. dubu 98. i'opu 99. ka'e'e
 100. olisiai

E.8 Pirupiru Kiwai

1. dubu 2. mamie 3. mo'o 4. oro 5. nimo 6. sipue 7. eputa
 8. epusame 9. damari opu 10. wodi 11. gare 12. ibonuru 13. otobe
 14. dopa, turuoturuo 15. matago 16. tu 17. amo 18. niro 19. sairo
 pata 20. kaufi 21. tama 22. savi 23. kasavi 24. sorokeka 25. giropu
 26. beu 27. saiki-opu 28. sagomi 29. suri 30. toboro 31. wisare
 32. duwo 33. obo 34. sabo 35. nokora 36. nori 37. podo 38. mafi
 39. gafua 40. tuo 41. gabu 42. ota tomu 43. sipi 44. tama 45. soka
 46. wapo 47. sivi 48. sumusua 49. iopu 50. na 51. auunai/auwonaie

52. kerekaina 53. mea 54. tutu 55. karima 56. kea 57. wibu 58. ---
 59. --- 60. daimo 61. --- 62. tavitumo oro(?) 63. orio 64. oufo
 65. odio 66. otoboa 67. omi 68. aro 69. ubia 70. emiario 71. uwo
 72. utua 73. irarowo 74. --- 75. pepedu 76. ouro 77. arubo
 78. otoobo 79. masiro 80. dorori 81. etura 82. etura 83. ---
 84. moto 85. topira 86. no 87. io 88. naidi 89. netoa 90. umoro
 91. opia 92. puai 93. pori 94. --- 95. --- 96. --- 97. dubu
 98. iopu, kaima 99. --- 100. ohisiai

E.9 Sisiame Kiwai

1. dubu 2. orobo, mamu 3. mo/ma 4. oro 5. nimo 6. imese 7. eputa
 8. sobo 9. edamari 10. ponogo, wodi 11. gare 12. ibonoro 13. ototobe
 14. dopa, mau, turuo turuo 15. matagoro 16. tu 17. amo 18. niro
 19. sairo 20. kaufio 21. tama 22. savi 23. kasavi 24. soro
 25. giropu 26. beu 27. saiki 28. sagomi 29. maruu 30. toboro
 31. wisare 32. duo 33. obo 34. ura 35. keatoma 36. nori 37. podo,
 damera 38. era, mafi 39. gahua 40. panese 41. gabo 42. nuka
 43. sipi 44. tama 45. soka 46. wapo 47. ipoipo 48. musua 49. iopu
 50. nakere 51. auwo/auwona 52. kainaimere 53. mea/wade 54. tutu
 55. karima 56. keakea 57. garee 58. agoago 59. --- 60. orosa/
 serawoie 61. kukuamo 62. miritomua 63. orio 64. oufo 65. odio
 66. otoboa 67. omii 68. aroro 69. orofo 70. aiwai 71. uwo 72. utua
 73. eauri 74. --- 75. damidami/pepeduwo 76. ouro 77. kiarubi, odau
 78. otoobo 79. masiro 80. dorori 81. etura 82. etoura/bedara 83. ---
 84. nimo 85. siriore/sipu 86. no/io 87. io 88. naupoti 89. netoa
 90. umoro 91. opia 92. puaie 93. pori 94. --- 95. --- 96. ---
 97. dubu 98. iopu 99. --- 100. ohisiai

E.10 Tureture Kiwai

1. hawana 2. orobo 3. mo 4. ro 5. nimo 6. imehe 7. epuru 8. epuru/
 muho 9. damari 10. wodi 11. gare, hepate 12. ibunoro 13. wototorope
 14. mau'u, tururuwo 15. magata 16. tu 17. amo 18. niro 19. hairo
 20. popu 21. ogomu, tama 22. arima 23. gadi 24. kako 25. giriopu
 26. beu 27. hiwio 28. ganumi 29. gugi 30. toboroere 31. wihare
 32. duwo 33. obo 34. hopu 35. noora 36. wio 37. podo 38. era
 39. tema 40. kunaro 41. gabo 42. ota 43. --- 44. tama 45. uma
 46. sano 47. wowogo 48. paha 49. iopu 50. arimina 51. auwo 52. sobo
 53. wade 54. tuturu 55. kopohe 56. kea 57. wibu 58. agoago

59. poroporo 60. eraera 61. ibubu 62. orohuwo 63. orio 64. oruho
 65. odio 66. otobowa 67. omioi 68. arogo 69. arao 70. agiwai
 71. uwo 72. utuwa 73. eauri 74. irovidiro 75. igiri 76. ogu
 77. arubo 78. iadedeai 79. paina 80. oo'ori 81. boturo 82. beda
 83. --- 84. nimo 85. auwohe 86. ni 87. gi 88. nau 89. netowa
 90. umoro 91. opia 92. puai 93. paha 94. --- 95. --- 96. igiri
 97. dubu 98. kaema, iopu 99. --- 100. orihiai

E.11 Urama Kiwai

1. dubu 2. o:bo 3. mo 4. ŷo 5. nimo 6. tuniha 7. epu 8. epu muho
 9. itomai 10. wodi 11. hepa:to 12. giri 13. toto'obe 14. giopu
 15. pu'o 16. tu 17. amo 18. niŷo 19. hairo 20. popu 21. tama
 22. ora 23. ne'emu 24. horo 25. gi'opu 26. beŷu 27. hivio 28. owe
 29. pi:u 30. tu'o 31. viha 32. duo 33. obo 34. hepu 35. no'oapi
 36. vio 37. no'oa 38. muko 39. ahuta 40. tu'o 41. gabo 42. nu'a
 43. hipi 44. tama 45. umu 46. wapo 47. momo'o 48. muho 49. hura
 50. na 51. huna 52. kehimere 53. mi'aha 54. tutu: 55. ora ora
 56. bokoboko 57. idiidi 58. boroyu 59. kurukuru tama 60. erara
 61. gu'obo 62. --- 63. oio 64. iho 65. idio 66. oto'ara 67. emiera
 68. a'ora 69. odaora 70. ha 71. uro 72. uta'a 73. e'a 74. orovidio
 75. oru'oi 76. owa 77. oromumu 78. adedeai 79. paina 80. tuatua
 81. otuŷo 82. na'uro 83. adia 84. nimo 85. hirohi'a 86. na
 87. a'o oirie 88. ka'umere 89. neto'a 90. umo 91. wadomodi 92. bia
 93. paha 94. nahi'o 95. tepare 96. kikipi 97. mere 98. hura
 99. kopi 100. ihiai

E.12 Wabuda Kiwai

1. dubu 2. worobo, wobo 3. mo 4. oro, ara 5. nimo 6. modobeme
 7. kepuru 8. kepu muso 9. idimai kopu, damari kopu 10. sa^urugo
 11. sepate 12. ibupoka, kiowa 13. wotopere 14. makomu, turuturuo
 15. mubasoro 16. tuwo, tuipi 17. amo 18. dopi 19. sakiro
 20. popu kepuru 21. tamakere 22. karima 23. kasawo, gadi, sikitopi
 24. soro 25. nikopu, igikopu 26. biu 27. sariki, seki 28. sogo'mi
 29. suri 30. amuke, tema 31. wisare 32. duwo 33. kobo 34. sopukere
 35. nokorokopi 36. wio, nori 37. podo, wamo 38. kera 39. tema
 40. tonobere 41. gabo 42. kota 43. sipi 44. tamakere 45. wiko
 46. waputio 47. wowogo, wogoburo 48. posa 49. kikopu 50. aremina
 51. eredeia 52. sanaburo 53. aragoro 54. tutukere 55. kaimakarimu,
 kaika'ma 56. kaiakaia 57. ibikere, kirikiri'yo 58. agoago 59. ---

60. tiakea 61. diwo, diriwo 62. topukorosuwo 63. korio 64. oruwo,
iriho 65. odio 66. otobota 67. omitoti, omototi 68. arogo 69. adiro
70. ututuraro 71. kuwo, ku'wo 72. uuta 73. okaramadio, ogoromadio
74. orowi 75. airimadio, woka 76. oguro, oguru 77. aruba 78. atakoba
79. masira, masiro 80. korokere 81. oturo 82. dabaro, dava 83. ---
84. nimo 85. saikipu, sirio 86. howopo 87. gadinamoro 88. kasepuro
89. netoworotere 90. umoropu 91. aigirita 92. puai 93. pasa
94. sikitopi 95. --- 96. --- 97. --- 98. miserepu, kikopo 99. ---
100. isiaro

APPENDIX F: TURAMA-KIKORIAN

F.1 Ikobi-Kairi

1. wane 2. besi 3. ina 4. iya 5. nane 6. tera puapuru 7. map^h
8. maporo 9. si(tom) 10. bop^h 11. kupi 12. kəi yo 13. kumen
14. tomq 15. kho 16. se 17. sq 18. kan 19. hae 20. magu 21. kora
22. kai 23. sam 24. hap 25. kamu 26. doro 27. iyos 28. wasiba
29. nabpo 30. mo/orumu 31. kap 32. kafun 33. mʉ 34. rofu 35. kam
36. ram 37. sawa 38. kom 39. suku/kumsɿ 40. kumɔtone 41. rei 42. i
43. ihai 44. i koro 45. kas 46. kao 47. kae 48. kai boro 49. tɔm
50. mai 51. makɔbu 52. kumfat same 53. raro 54. so 55. kum
56. sabiai 57. kasio 58. ariyan 59. ire 60. eph 61. kume 62. barabu
63. mem 64. nouwe/nokun 65. aya nobo 66. habisiwe 67. karne
68. ankenabo 69. iya uwe 70. iyapoe/ɛna oruwe 71. aya bisubo 72. iya
- bisuwe 73. --- 74. anakobo 75. aya mutafuobo 76. ero 77. aya bokenobo
78. kasafobu 79. nanini 80. ku 81. mae 82. kubae 83. aya ane soptabo
84. kurom 85. nabanau kariaimu 86. (emu) eni 87. ɔbo 88. sɔkane
89. hae 90. aya kanebo 91. aya tekenabo 92. --- 93. iboro 94. tauwɔ/
- mis 95. siska 96. kai haimabos 97. wani 98. kunwe 99. kombirau
100. kasiksnawau

F.2 Kairi

1. uki 2. wo 3. ene 4. ikipu 5. nati 6. apaimene 7. wotu rapo
8. pate 9. ihita 10. yu rapo 11. ku pate 12. maku 13. ɔho 14. hipu
- riki 15. o 16. he riki 17. ho 18. yo 19. re riki 20. lemoko
21. heitau 22. hokore 23. wopi 24. rapo 25. kamau 26. upi 27. eho
28. pari 29. pari hipi 30. uru paruho 31. kapo 32. riho 33. u
34. hapu 35. akapu 36. wio 37. akapu 38. i 39. i ahinu 40. atoputi
41. tɛɿ 42. i 43. i rui 44. hevi 45. ka 46. tura 47. ka 48. ka
- pate 49. re 50. namu 51. gwɔbi 52. matu 53. kahau 54. hau
55. hokore 56. paruho 57. hukuri 58. yeya 59. kepa 60. epo

61. hahau 62. orope 63. woinu 64. nato 65. u nato 66. raito
 67. maru moto 68. keto 69. ve 70. tato 71. hitato 72. pekete/hita
 73. wahito 74. woito 75. uhine 76. yato 77. pona uto 78. teketo
 79. paina 80. hene 81. maa 82. kopa 83. yakarato 84. kuro 85. tane
 hari 86. ale 87. oko 88. ġiabai 89. tai 90. ranemepo 91. rato
 92. miimo 93. i pate 94. mehamu 95. kepare 96. kohemu 97. ---
 98. maro 99. --- 100. kahekapo

F.3 Mena

1. wone/wonami 2. bese 3. ina/inara 4. iya/iyari 5. nanΛ/awah
 6. konē tλrupuau 7. mabo 8. maboru 9. sitoumu 10. boŋo 11. kovi
 12. kəjyq 13. kumen 14. bogλhau 15. komerλ 16. semarλ 17. ŋo/ŋo
 18. kamburu 19. hāi habo 20. maku 21. kʷaru 22. kai 23. samM
 24. havo 25. kλmuu 26. ihaġe 27. yosə/yosu 28. wasibληλ/wasibia
 29. sigwin 30. noramo 31. kore 32. kλpo·n(u) 33. mu 34. sabo
 35. kamə 36. kiki 37. ka·ηkλro kəm 38. kumu 39. kumu ŋini 40. kumu/
 kabia 41. dike 42. ʔi 43. ihe 44. ikoro 45. kasə 46. ku 47. kaie
 48. kai boro 49. tλme 50. māj 51. makubʷλo 52. kəsime/kose meau
 53. daro 54. samakuvu 55. kumo/kum 56. sabia 57. kλsic 58. yeya
 59. kasiabari 60. eve/ketamau 61. ina kiviti tamau 62. tesikinəwau
 63. wasiā konau 64. nλʷwe 65. munλ tλmanu 66. hamau habisiyae
 67. karue/karimau 68. iyaυ tamau 69. iyaʷwe 70. iauroe 71. bisi tλmau
 72. bisue 73. boma towe 74. menə kotamau 75. mu taŋuta·mau 76. ya uwe
 77. periko kotλmau 78. kasə po'au 79. nenene 80. kirawau 81. iya
 maie 82. kombaie 83. hari·tλmau 84. kuromə 85. mombaiyou 86. enaʷ
 87. (asia) enau 88. sλkanə 89. hāie 90. kaniau 91. teki tλmau
 92. --- 93. i boru 94. misi 95. kisika 96. simabosa 97. wλne
 98. i haie 99. kombiran 100. kasikəsənawau

F.4 Omati

1. gamin 2. bes 3. ina 4. iyu 5. nana awoha 6. awoha 7. mawo
 8. mahabero 9. isi 10. sorowu 11. kovi 12. kokame 13. komene
 14. boko 15. kobo 16. si 17. ŋu 18. kaburu 19. hai 20. murame
 21. kebo 22. kei 23. koho 24. havo 25. evi 26. toʔi toʔi 27. soa
 28. baira 29. ku'ini 30. urumu 31. kavo 32. same 33. fae
 34. boromo 35. kamu 36. wio 37. kama 38. kumu 39. kumu sini
 40. dumu 41. dike 42. i 43. --- 44. pavi kene 45. kase 46. kase koʷ
 47. kae 48. kae bolo 49. mena hai 50. moi 51. makuvu 52. kateane
 53. daro 54. kokeʔa 55. kumu 56. sevea 57. su 58. lara 59. noha

60. evi 61. kimini 62. filikinanau 63. mikasi 64. damanai
65. mowanae 66. hakuřure 67. kevitire 68. mina kene 69. uwai
70. iniri ore 71. bisiniha 72. boromane bisa 73. toanau 74. aienau
75. mowatofe 76. bine 77. bukawane 78. hae 79. nenena
80. penekénainau 81. aiyema 82. ba 83. nafainau 84. kulamu
85. uruwao 86. enao 87. asao 88. sakaina 89. hatarari 90. ia koabe
91. duwa tekenanau 92. --- 93. ibolo 94. mis 95. keseka 96. si mavo
97. --- 98. kovai 99. biri 100. aya kaskenabo

APPENDIX G: INLAND GULF

G.1 Ipiko

1. anime 2. anumu 3. wó/bó 4. nǒ/nǔ 5. ni' 6. bomoti' 7. ábe/ǎbe
8. u' 9. uhi'no 10. dahi'/dnhi' 11. thu' 12. tá 13. ǎ'hǎ 14. hó/
hǒ/hǒ'o 15. imutúpu 16. hána 17. hóbo 18. uti 19. tepé'fe 20. e'poi/
ai'poi 21. oi'po 22. i'bo 23. aiho 24. hǎ'fo 25. mámo 26. li'ya
27. ni'be 28. u'biyǎ 29. opópo 30. pábo 31. wúha 32. bápo 33. ógo
34. gotho 35. méno 36. bió 37. nǔǎ 38. tái 39. ahúto 40. tái/pa'bo
41. nábe 42. dé 43. titi' 44. de 45. gáho 46. gaho ihyó 47. dipéme
48. dipe ú 49. áni 50. thópe 51. řáuo 52. bóne/bóne 53. baháto
54. debe yége 55. i'pamu 56. ařúma 57. búbu 58. řakořako 59. begáma
60. ba báto 61. kóbuwa 62. ogoma hagápe 63. ahó gářo 64. emé
65. ogoi' me 66. témo řiate 67. máni 68. démo'poi 69. ubá
70. mogunago ma 71. téno 72. máni 73. te muteřati 74. té/(té)
mugiařati 75. manohi 76. amá 77. madabi 78. bahwi' 79. higa'
80. (moga?) káni 81. ba hai 82. ǎi/ǎé 83. omo hǎbo déno 84. řaika(?)/
(wáni(?)) 85. (ron'oni)?/máhine 86. aha nořobo 87. anóto 88. dápo
89. meyǎhi 90. o řoróne 91. maiřupi 92. kaumáni 93. hǎne 94. topé
95. mahá 96. tipe muhana 97. hanemyǎ 98. de ane 99. aupóimeřa
100. ma'puamo

G.2 Minanibai

1. ama 2. kipa 3. no 4. nǒ/nǔ 5. ni 6. botakumi 7. gio 8. inutu
9. kupino 10. desi 11. dera 12. tou 13. goda 14. foko 15. momout
16. pipini 17. nono 18. kuti 19. idini 20. kiwonu 21. nikopi
22. nikana 23. gadi 24. pia 25. guguwao 26. liva 27. sivio
28. bube 29. gugi 30. bubu 31. darepo 32. riiko 33. ao 34. sabo
35. nadi 36. miri 37. ifia 38. mofamofa/mafi 39. kofuto 40. panipo
41. dige 42. de 43. de daroi 44. de kiapana 45. gahoi 46. wasiri
47. ebeso 48. ebeso inutu 49. usu 50. ebiame 51. gamiso 52. kopaiino

53. daroe 54. gorivo 55. mafibogue 56. sevia 57. soguro 58. ---
 59. pahonikapi 60. papatoe 61. kigio 62. muwabo 63. darimokasie
 64. idie 65. ede mio 66. ta(u)kui dobo 67. em(o)e 68. teki^atekioe
 69. ewobao 70. enagu 71. ete 72. emoi 73. kaiepo 74. eugio
 75. koroi 76. ego bamo 77. evesate rokito 78. tabuto 79. digo
 80. petioi 81. wotee 82. augea 83. erprota 84. nimo 85. gomiso
 86. wotoiya 87. wotoiya 88. raegio 89. masi 90. podavugi 91. edu
 92. kahari 93. paho 94. aiinu 95. kieto 96. evesatirikie 97. ---
 98. asa 99. --- 100. no

G.3 Tao Suamato

1. ama 2. ifa 3. no 4. go 5. ni 6. amibato'o umi 7. geo 8. geau
 eveve 9. ufiro 10. dehi 11. ometo 12. behe 13. oda 14. bapo'ole
 15. --- 16. posi'i 17. dolo 18. uti 19. boho 20. omu'u 21. ai pele
 22. Ŷahage 23. bede ni'ofi 24. efole 25. bita 26. --- 27. sei'i
 28. bubei 29. bobe 30. diadia'lai 31. gozoi/golo'i 32. di'o
 33. zagi 34. b'oti 35. amahe 36. gipoi 37. ifia hakapu (?) 38. ta'ili
 39. oputo 40. mowimu'i 41. idi 42. te 43. me'ele 44. a:o 45. gaho
 46. --- 47. eveha 48. --- 49. putu 50. e:bi 51. bede 52. goisi'e
 53. dalo 54. goliolive 55. bitivoko 56. --- 57. ome ome to
 58. etavoto 59. --- 60. papato 61. dom'oge 62. --- 63. --- 64. lozo/
 lolo 65. bedemo 66. be'a uri ropo 67. bebaleho 68. beitamo 69. ---
 70. --- 71. betelo 72. --- 73. be'ai to 74. bewo 75. e'ege'o
 76. be'o vamor 77. --- 78. --- 79. dogo 80. bibirehale 81. vetai'iro
 82. a'oiro 83. --- 84. oali 85. bede 86. ape wovavo 87. ---
 88. dagomolo 89. ukia moro 90. --- 91. --- 92. --- 93. debahai
 94. airu 95. --- 96. --- 97. --- 98. demomo'o 99. ---
 100. detakamame

APPENDIX H: TOARIPI-ELEMAN¹

H.1 Aheave

1. hilavila 2. uva 3. ora 4. a 5. elaveiia 6. oaria 7. haro
8. harokoro 9. ovohae 10. overa 11. moko 12. kao 13. eru 14. elapa
15. ape 16. mei 17. mame 18. morupe 19. more 20. more ari 21. maea
pura 22. apu 23. kepare 24. uki 25. hiva 26. iki 27. homare
28. popare 29. kou 30. mea-uru 31. lahi 32. oroma 33. ma 34. mea
35. ohore 36. mea kekele 36.(b) miri holo 37. kela 38. kere
39. ekakela 40. ahe 41. hoi 42. kora 43. elele 44. kora maeapula
45. ave 46. eive 47. amoila 48. amoila koro 49. amoila hae 50. ekaka
51. laleha 52. ehaelakore 53. veveke 54. hepi 55. kevare 56. ohu
57. aipo 58. kairu 59. kairu 60. ahea 61. mehere 62. loka elai
63. ereke 64. levaha 65. ma levaha 66. urou 67. hoiava 68. oharo oia
69. more meavaha 70. eiora 71. omuku uva 72. uva 73. ovohae eava
74. iapa 75. ma hara 76. eko (*fr. coast*), heka (*fr. inland*) 77. vivila
78. mulova 79. lare 80. koro 81. leia 82. le'e 83. a hokovove
84. karukaru 85. oarielei 86. ohore 87. oma 88. lohoreokore
89. lahoaha 90. ore loa 91. he'e 92. ka 93. korakoro 94. mohora
95. kea 96. mei haro (*of foreleg*), more haro (*of foot*) 97. hoela
98. kora mere 99. helori 100. opoia

H.2 Kaip²

1. vicoica 2. uva 3. ara 4. a 5. ereica 6. foromai 7. harofave
8. haro tue 9. ofae 10. evera 11. avala 12. tao 13. uri, lauri
14. kōvōre 15. ape 16. mai 17. kō 18. ére 19. mora 20. arihau
21. maea ruru 22. ovo 23. tapare 24. uti 25. lakakare 26. hai
27. sare 28. papare 29. koru 30. mea-e 31. lai 32. faica 33. ma
34. mea 35. fave 36. mea tetere 36.(b) miri folo 37. raepa 38. a

¹ = glottal stop. See chapter 8 for discussion of present orthography.

²c = /tʃ/. See chapter 8 for discussion on present orthography.

39. aikohela 40. afucae 41. oti haro 42. tola 43. lakerea 44. tola
 rururu 45. ave 46. ue 47. ori 48. ori meha, ori tolo 49. ori fae
 50. tava 51. karulovu (sg.), karulovukaka (pl.) 52. ekari (sg.),
 kaekaehehela (pl.) 53. meta 54. saieka 55. moi ovohori 56. moi sea
 57. moi haihiri 58. moi koavai 59. moi opopori 60. hahea 61. memesere
 62. ape furica 63. áre 64. lala 65. ma lala 66. coi 67. avai
 68. o meai, o ara 69. mora ara 70. ovilai 71. ivutu loi 72. uia (sg.),
 uovia (pl.) 73. ofae eovi 74. avapai 75. ariveai 76. iti (*fr. E.*),
 kwoti (*fr. W.*) 77. fufukwai 78. pucovi 79. lare 80. orara 81. leica
 82. lea' 83. a sara 84. saruca 85. siviri 86. ma, mealea 87. la,
 lealea 88. fareapo 89. orale 90. ore loi 91. paea, savati (*animal*)
 92. haroka, levei 93. tolotolo 94. osa 95. kea 96. mai haro (*of*
foreleg), mora haro (*of foot*) 97. karu 98. tola mere 99. mea kou
 100. opia

H.3 Keuru

1. vilaia 2. uva 3. ora 4. e'e 5. ele'ila 6. oaria 7. haro
 8. haro koro 9. ovohae 10. ulolo 11. moko 12. kao 13. hailu 14. loka
 15. ape 16. méi 17. ama'e 18. morupe 19. loa 20. loa ari 21. maea
 iilu 22. opu 23. kepare 24. iki'i 25. lauka hae 26. iki 27. hovare
 28. papare 29. ko'ou 30. mea uru 31. lahi 32. orovo 33. ma 34. mea
 35. ohora 36. mea kekelea 36.(b) miri ho'oro 37. kela 38. a
 39. a-kokela 40. a-ehe 41. okilale'a 42. kora 43. kora elele 44. kora
 iilu 45. ave 46. eu'e 47. avoilo 48. avoilo koro 49. avoilo ha'e
 50. ela'au 51. lala'e (sg. & pl.) 52. keikaikore 53. veveke 54. heie'i
 55. maea kevare 56. maea houhu 57. maea uru 58. maea kairu 59. maea
 kairu 60. ahe'a 61. mehere 62. ape loka lai 63. eleke 64. le'e
 65. ma'a le'e 66. urou 67. hoiova 68. oharo aia 69. loa iuvovu
 70. iora 71. muku uava 72. uavai 73. ovohae eavoi 74. iapa 75. ma
 mi'ihouou 76. eko (*fr. seaward*), heke (*fr. inland*) 77. iuvove
 78. mulova 79. lare 80. korokoia 81. hoila 82. le'e 83. a hokovove
 84. karula 85. oaria 86. mole'a 87. lola'e 88. loriakori 89. lahoaha
 90. ore loi'e 91. hila (*man and animal*) 92. ka'o 93. korakoro
 94. mahala 95. kea 96. me'i haro (*of foreleg*), lo'a haro (*of foot*)
 97. hoela 98. kora mere 99. helori 100. opoia

H.4 Opao

1. vilaia 2. uva 3. ora 4. a 5. eleiloila 6. siahuela 7. haro
8. haro koro 9. ohae 10. paku 11. ovoko 12. kao 13. halela
14. karave 15. ape 16. mai 17. amae 18. ére 19. mora 20. mora ari
21. maea uru 22. opu 23. meave 24. uki 25. haupe 26. iki 27. hare
28. kapare 29. kou 30. mea oro 31. lai 32. eloa 33. ma 34. mea
35. have 36. mea kekere 36.(b) miri hororo 37. raepa 38. a
39. ovokohela 40. ahurae 41. okiharo 42. kora 43. makere 44. kora
- uru 45. ave 46. auwe 47. ori 48. ori koro 49. ori hae 50. ekaka
51. milariapo (sg.), piroriapo (pl.) 52. ekako (sg. & pl.) 53. lapoari
54. haiapo 55. maea ovoka 56. maea helaka 57. maea uruka 58. maea
- keiruka 59. maea keiruka 60. ahea 61. hoholia 62. ape furira
63. áre 64. lera 65. ma lera 66. uroi 67. ava 68. oharo maea
69. mora mea 70. iara 71. ivuku uava 72. uava 73. ohae eava 74. iapa
75. ma veveve 76. heke (*fr. E. or W.*) 77. vivila 78. mulamori
79. lare 80. koroka 81. leia 82. le 83. a hai 84. karula 85. siahuela
86. mahea 87. lahea 88. haipori 89. helaukai 90. ore lei 91. hai
- (*man or animal*) 92. kari, le 93. korakoro 94. maea-hari 95. kea
96. mai haro (*of foreleg*), mora haro (*of foot*) 97. haela 98. kora mere
99. maea helori 100. opi

H.5 Orokolo

1. hilavila 2. uva 3. ara 4. a 5. elaviila 6. oaria 7. haro
8. haro koro 9. ovohae 10. overa 11. avako 12. kao 13. auli
14. karave 15. ape 16. mai 17. amae 18. ēre 19. loa 20. loa ari
21. maea iilu 22. apu 23. kapare 24. uki 25. hoipe 26. iki 27. hare
28. papare 29. kou 30. meuru 31. lai 32. oroa 33. ma 34. mea
35. have 36. mea kekele 36.(b) miri holo 37. kela 38. a 39. a-mahuvu
40. ahurae 41. oki, okiharo 42. kora 43. elele 44. kora iilu 45. ave
46. aue 47. ori 48. ori kolo 49. ori hae 50. ekaka 51. eapapo (sg.),
- ehoaha (pl.) 52. hekai (sg.), titaeka (pl.) 53. veveke 54. heaikiapo
55. ovoka 56. hauhuka 57. uruka 58. kairuka 59. kairuka 60. ahea
61. vevehere 62. heloekoa 63. āre 64. lara 65. ma lara 66. urou
67. haiava 68. oharo maea, o ara 69. loa vea, loa au 70. avara
- 70.(b) avikiara (*to person speaking*) 71. avuku uava 72. uava 73. ovohae
- eava 74. iapa 75. ma hara 76. iki (*fr. E.*), eke (*fr. W.*) 77. vivila
78. mulava 79. rare 80. kakarara 81. leita 82. lela 83. a hara
84. karula 85. oaria 86. ma, mae 87. la, lae 88. haroapo

89. orahokaila 90. ore lai 91. hara, paea 92. ka, -lue 93. korokoro
 94. aivau 95. kea 96. mai haro (*of foreleg*), loa haro (*of foot*)
 97. haela 98. kora mere 99. maea helori 100. apa

H.6 Sepoe¹

1. heavila 2. ua 3. arava 4. ava 5. iauoa (incl.) 6. falakeilive
 7. harokuku 8. haro tupe 9. ofare 10. evera 11. ava-uta 12. tao
 13. uri 14. kōvōre 15. ape 16. mai 17. kō 18. ére, kakaita
 19. mora 20. arihau 21. maea ruru 22. ovo 23. tapare 24. uti
 25. lakakare 26. haie 27. sare 28. papare 29. koru 30. mea-e
 31. lai 32. faita 33. ma 34. mea 35. fave 36. mea tetere
 36.(b) miri folo 37. laepa 38. a 39. aikaera 40. afulae 41. otiharo
 42. tola 43. likere 44. tola ruru 45. ave 46. uke 47. ori 48. ori
 mehe 48.(b) ori tolo 49. ori fare 50. ekaka 51. oaharo (sg.),
 oaharofafa (pl.) 52. keai (sg.), titititi (pl.) 53. lareva 54. savori
 55. mea ovohari 56. mea sea 57. mea uru 58. mea opori 59. mea popori
 60. hahea 61. masesere 62. sopua 63. áre 64. lari 65. ma lari
 66. urou 67. avai 68. omoi, o apua 69. mora terai 70. miarai
 71. ivutu iava 72. iava 73. ofae eovi 74. moapai 75. arivi 76. iti
 (fr. E.), koti (fr. W.) 77. furufuruka 78. mulovi 79. lare 80. arara
 81. aia 82. larievu 83. a sopusa 84. sarula 85. rauapo 86. mea,
 meha 87. lea, reha 88. liheriapo 89. orakoria 90. ore loi 91. paea,
 savai (*animal*) 92. kau, ievi 93. tolotolo 94. salava 95. kea (*tusk*)
 96. mai haro (*of foreleg*), mora haro (*of foot*) 97. karu 98. tola mere
 99. mea eloritu 100. opi

H.7 Toaripi¹

1. heavita 2. ua 3. ara 4. a 5. ereita 6. foromai 7. harofave
 8. haro tui 9. ofae 10. everape 11. kirori 12. tao 13. uri
 14. kōvōre 15. ape 16. mai 17. kō 18. ére 19. mora 20. arihau
 21. maea ruru 22. ovo 23. tapare 24. maea uti 25. lakakare 26. hai
 27. sare 28. papare 29. koru 30. mea-e 31. lai 32. faita 33. ma
 34. mea 35. fave 36. mea tetere 36.(b) miri folo 37. raepa 38. a
 39. aikaera 40. afutae 41. otiharo 42. tola 43. likilea 44. tola ruru
 45. ave 46. uke 47. ori 48. ori mehe 48.(b) ori tolo 49. ori fare
 50. ekaka 51. rovaea (sg.), metameta (pl.) 52. seika (sg.), kaekae (pl.)

¹ō = /o/. See chapter 8 for the discussion of the present orthography.

53. lareva 54. savori 55. maea mohari 56. maea sea 57. maea uru,
maea haihiri 58. maea koavi 59. maea popori 60. hehea 61. vevekoko
62. soauai (vb.) 63. áre 64. lauai 65. ma lauai 66. itoi 67. avai
68. omoi, o auai 69. mora terai 70. miarai 71. ivutu iavai 72. iavai
(sg.), iroropai (pl.) 73. ofae eavai 74. mapai 75. ariveai 76. iti
(*fr. E.*), koti (*fr. W.*) 77. fufukai 78. putovai 79. rare 80. arara
81. leisa 82. lekoru 83. a sauai 84. saruta 85. rauapo, siviri
86. mea, meha 87. lea, reha 88. farakeka 89. orakoria 90. ore loi
91. paeai, savai (*animal*) 92. kao, levi 93. tolotolo 94. sarōva
95. kea 96. mai haro (*of foreleg*), mora haro (*of foot*) 97. karu
98. (tola) mere 99. maea koauka 100. opai

H.8 Uaripi

1. vilaikae 2. uva 3. ara 4. a 5. ere'ioru 6. maeakoko 7. haro
8. haro toro 9. ofae 10. haraha 11. avato 12. tao 13. uri 14. kovore
15. ape 16. mai 17. avaihi 18. ére 19. mora 20. arikaka 21. maea
hiru 22. ovo 23. tapare 24. uti 25. saife 26. iti 27. sare
28. papare 29. koru 30. mea-e 31. lai 32. eloa 33. ma 34. mea
35. fave 36. mea tetere 36.(b) miri folo 37. raepa 38. a 39. akoera
40. afurae 41. otiharo 42. tola 43. tusu 44. tola hiru 45. ave
46. aue 47. ori 48. ori mehe 48.(b) ori tolo 49. ori fare 50. tava
51. kakaiapu (sg.), milorimilori (pl.) 52. keako (sg.), kaekae (pl.)
53. metaka 54. saikapo 55. maea ovoka 56. maea selaka 57. maea uru
58. maea porika 59. maea porika 60. hahea 61. memesere 62. ape furira
63. áre 64. lara 65. ma lara 66. uroi 67. ava 68. oharo meai, o ara
69. mora loi 70. miara 71. ivutu uava 72. uava (sg.), eropai (pl.)
73. ofae eava 74. mapa 75. ma sorera 76. ete (*fr. E.*), ukote (*fr. W.*)
77. vivila 78. mulava 79. lare 80. arara 81. leia 82. le 83. a sara
84. sarula 85. piroriapo 86. me'e 87. lai'e 88. fareapo 89. helakere
90. ore lai 91. paea, sare (*animal*) 92. harokari, leavi 93. tolotolo
94. viairi 95. kea 96. mai haro (*foreleg*), mora haro (*foot*) 97. laea,
karu 98. tola mere 99. maea koauka 100. opa

H.9 Supplementary
(Numbers are from standard S.I.L. list)

Toaripi

68. (girl) mori 78. (pig) ita 80. (wallaby) pisoru 81. (flying fox) tavō 82. (rat) airi 83. (frog) pakeke 91. (bean) bini 92. (axe) naoita 93. (knife) naosoi 101. (vine) morōve 105. (tobacco, native) siomu 107. (afternoon) meafautu 108. (yesterday) area sare 110. (tomorrow) vevere sare 120. (light weight) pasoa 143. (yes) a

Sepoe

68. mori 78. ila 80. faitoru 81. tavō 82. airi 83. malele 91. bini 92. naoa 93. naosoi 101. morōve 105. siomu 107. meafautu 108. area sare 110. opulu sare 120. pasoa 143. a

Kaipī (c = /tʃ/)

68. mori 78. ica 80. ficolu 81. tavō 82. airi 83. horahora 91. bini 92. naoica 93. naosoi 101. merōve 105. siomu 107. meafaica 108. area aica sare 110. vevere sare 120. peso, fesoa 143. a

Uaripi

68. mori 78. ila 80. pitoru 81. tavo 82. airi 83. karakara 91. piri 92. lao 93. soi 101. morove 105. siomu 107. meafilo 108. faira sare 110. opoa sare 120. kokaoka 143. ahae

Opao

68. mori 78. ila 80. haiaru 81. kavo 82. airi 83. paripara 91. piri 92. nao 93. naohoea 101. merove 105. siomu 107. meahilaea 108. hailele hare 110. opoa hare 120. keika 143. ehe

Keuru

68. mori 78. ila 80. haioru 81. kavo 82. airi 83. paripara 91. piri 92. ila 93. hoela 101. lo'o 105. siomu 107. meahailaila 108. hoila havare 110. opo havare 120. miho'u 143. e'a

Aheave (ō = /ɔ/)

68. mori 78. ila 80. hoioru 81. kavo 82. airi 83. poripara 91. piri 92. ile 93. hoie 101. lō 105. siomu 107. meahailaila 108. haila halea 110. opoa hovare 120. lohaho 143. e

Muro

68. mori 78. ila 80. haiaru 81. kavo 82. airi 83. pariara 91. piri
 92. ila 93. hoi 101. merove 105. siomu 107. meahailaea 108. hails
 hare 110. opoa hare 120. koraoka 143. e

Orokolo

68. mari 78. ila 80. haiaru 81. kavo 82. airi 83. pariara 91. piri
 92. ila 93. hoi 101. merove 105. siomu 107. meahailaea 108. hails
 hare 110. opoa hare 120. koraoka 143. e

Raepa Tati

68. moru 88. aiparo 80. havadu 81. --- 82. haua 83. --- 91. ---
 92. nau 93. --- 101. --- 105. --- 107. lafifi 108. lafi lare
 110. pani'ila lare 120. kaola 143. ---

APPENDIX I: UNCLASSIFIED

I.1 Porome

1. moi 2. eri 3. amo 4. do 5. amq 6. auopa 7. kimi 8. kimi kuro
9. ipiri 10. urubi 11. eboi 12. koropi 13. bei 14. abei 15. ara wui
16. iri 17. ei 18. bauri 19. kapui 20. muri 21. mapori 22. paru
23. mari 24. wei 25. pumi 26. imakari 27. eri 28. umeri 29. oiri
30. bari eporo 31. dei 32. bui 33. ubi 34. ei 35. aburi upo
36. peiri 37. aburi 38. elei 39. uobi 40. omori 41. meri 42. kubi
43. kubi apa 44. kubi maporo 45. kavui kumi 46. kumi duro 47. barikere
kumo 48. kumi pauma 49. mui 50. koribi 51. iwari 52. eteaurimi
53. oparo 54. teteri 55. puri 56. banouni 57. epui 58. ekeribare
59. viburo 60. ukari 61. kunami 62. kumurabu 63. mapi oriora 64. ko
65. ubi ko 66. bai 67. ibitimaro 68. uru 69. pe 70. apa wau
71. i(doa) 72. ei neika 73. eire 74. pio 75. ei(doa) 76. pou
77. bai bure 78. mabi 79. aru 80. amei 81. daweiro 82. nei
83. patiwo 84. nei 85. koipau 86. ida 87. da 88. wakoa 89. buakei
90. da umoba 91. do okoa 92. waiba 93. ori 94. nori 95. kebari
96. tupiri 97. kari 98. kei 99. korori, muro 100. mariraboro

I.2 Purari

1. vake 2. a'e 3. nai 4. ni 5. enei 6. uriria 7. uku 8. kimari
9. inamu 10. pina 11. keporo 12. ni'iri 13. anae 14. ke 15. ani
16. eve 17. ame 18. nemu 19. ari 20. ari epu 21. kape 22. aro
23. mera 24. la'aro 25. umu 26. mokono 27. lare 28. ia 29. ropo
30. ururu 31. la'i 32. kipere 33. ere 34. kae 35. rore 36. miri
37. akapu 38. iau 39. iana 40. kokaea 41. kapea 42. iri 43. neva
44. iri kape 45. oroko 46. o 47. nako 48. uru 49. munu 50. ina
51. ovaro 52. mau'u 53. ima 54. va'au 55. aro 56. urupu 57. moroa
58. laeko 59. moroa 60. iva 61. koupua 62. evopea 63. no'orea
64. navai 65. (ere) navai 66. orai 67. pokoiai 68. kuruai 69. avi

70. okuai 71. o'o keiai 72. keiai 73. inamu oiai¹ 74. viriai
 75. maikaiva 76. aneai 77. areae 78. veiai 79. noe 80. lavere
 81. koana 82. oi ana 83. iau navai 84. kaeri'i 85. aila 86. ei
 87. ou 88. monou 89. le'eo 90. ipa 91. avai 92. ai'i² 93. o
 94. oia 95. ua 96. mimini kiakia 97. a'a 98. uru 99. avikia
 100. imuai

I.3 Taepa Tati

1. aru 2. a'u 3. nao 4. aro 5. aufena nura 6. himiri 7. aro
 8. u'umo 9. ere 10. no'i 11. o'i 12. hu'u 13. anara 14. pani
 15. anara 16. upu 17. ame 18. here 19. fera 20. fera oko 21. mera'a
 22. ivare 23. melo 24. uki 25. hohire 26. ahena 27. lare 28. fuiya
 29. mihuhu 30. mene-uru 31. upa 32. lafifi 33. haime 34. tau auru
 35. ere 36. kekene 36.(b) fae fo'olo 37. u'o 38. aiye'i 39. aiye'i-
 uma 40. umu 41. kere'a 42. oporo 43. oporo mene 44. oporo ruru
 45. evera 46. orora 47. mini 48. mini onomo 49. mini numu 50. nane
 51. hi'ivila 52. paka'u (sg.), paka'upakau'u (pl.) 53. namaiya
 54. baieva 55. mela milo 56. mela e'elo 57. mela epore 58. mela nano
 59. mela o'u-o'u 60. oro'oro 61. vela'akokoa 62. fu'iha 63. o'ela
 64. muake 65. haime muake 66. u'eke 67. me'e 68. eme lamu'e
 69. naume mueha 70. ini'e 71. diai enu 72. dia 73. ere amu'e 74. mo'e
 ha 75. a'aka 76. mane (*fr. E. or W.*) 77. u'oha 78. nanamu'e 79. iru
 80. na'ora 81. naiforo 82. enena'i 83. aiye'i iro-araha 84. saruta
 85. himiri 86. ne'ea 87. e'a 88. okiao 89. u'ungka 90. ore ha
 91. auha 92. ore'ea 93. opurore 94. haivai'ime 95. keya 96. faha
 (*of bird*) 97. aruaru 98. oharo pu'ane 99. --- 100. ma'a ha

¹inamu = eye

²ai'i = no

APPENDIX J: MISCELLANEOUS

J.1 Bogaya

1. ami 2. imya 3. no 4. ko 5. inu 6. pafele 7. yela 8. heepi
9. kina 10. kuuma 11. hona 12. yagai 13. iki 14. daafa 15. siili
16. enaa 17. alu 18. saga 19. yehei 20. owamogo 21. hugwa 22. sokoya
23. telapa 24. hakale 25. ikingoi 26. eeni 27. owa 28. kaiyuu
29. yelegaya 30. ginu 31. paiyuku 32. omutogoo 33. paiyuku
34. yumuka 35. haana 36. --- 37. kalia 38. dowada 39. suku 40. mimu
41. hoona 42. dowa 43. dako 44. fulu 45. yau 46. pila hakale
47. aka 48. heepi 49. oondi 50. hei 51. suni 52. hitipa 53. homako
54. ulua 55. sokoya 56. kakala 57. omisi 58. kakala 59. kakala
60. to 61. asolo 62. kolungwila 63. sokqu 64. nosii 65. baiyukuno
- sona 66. yei 67. sooga 68. tosona 69. wagainaga 70. neimaka
71. holua 72. holupa 73. haka sina 74. wakisi 75. paiyuku 76. fosi
77. sele mokosi 78. kalesi 79. yaga 80. himeipa 81. pa 82. gemena
83. towa tosi 84. fando 85. suninama 86. uu 87. ahoo 88. moso
89. yeefa 90. waa 91. folusakā 92. ehee 93. heepi 94. poka 95. ---
96. kipa 97. tou 98. yukupa 99. sitete 100. ola

J.2 Duna

1. anoa 2. ima 3. no 4. ko 5. inu 6. pilili 7. kuni 8. hini
9. le 10. kuma 11. konane 12. ne 13. ogone 14. ma 15. habu 16. ki
17. adu 18. takane 19. tia 20. mokone 21. pulu 22. kuyila 23. hai
24. kuni 25. kupalini 26. ini 27. hewa 28. eke 29. yalekayi
30. popo 31. yu 32. akurua 33. yu 34. lidi 35. kana 36. yumu
37. kali 38. lowa kiliana 39. hawe 40. emo 41. hata 42. lowa
43. lako 44. lowa puru 45. yawi 46. lana 47. heka 48. hini 49. hapa
50. wena 51. puka 52. kete 53. peli 54. ugwa 55. yetao 56. peo
57. midu 58. abwao 59. --- 60. lolo 61. lakale 62. din 63. koni
64. neyana 65. yu neyana 66. kei 67. leina 68. luwana 69. gana

70. ugwana 71. wana 72. wana 73. kena 74. wakina 75. lana 76. heyana
 77. pakana 78. neyana 79. yaka 80. lĩḡḡ 81. ai 82. aki 83. kiliana
 84. tete 85. rokwa 86. huna 87. hana 88. du 89. yapa 90. konei
 91. teikina 92. neya 93. hini 94. pini 95. ne 96. hodene 97. ---
 98. eke 99. wapeo 100. konena

J.3 Kewa (West)

1. áá 2. ona 3. ni 4. ne 5. saa 6. rayo 7. aalu 8. iri 9. ini
 10. ini kadu 11. aane 12. aga 13. eke 14. máá 15. agaa 16. ki
 17. adu 18. robaa 19. àà 20. rumu 21. yogane 22. kupa 23. apaa
 24. uni 25. imu 26. pu 27. nare 28. akua 29. uba kedo 30. moae
 31. yai 32. ribaa 33. ipa 34. su 35. aana 36. ipa mu 37. pore
 38. repena 39. miru 40. taga 41. pora 42. repena 43. pitaa
 44. yogane 45. irikai 46. apu 47. yáà 48. iri 49. apaa 50. ena
 51. adaa 52. oge 53. epe 54. adaalu 55. kane 56. yaako pi
 57. kobere 58. abu pi 59. kagaa rekene 60. kekapu pia 61. upa pia
 62. rubini 63. kagaa 64. na 65. ipa na 66. reka 67. pira 68. la
 69. pamua 70. gi 71. u pala 72. pala 73. ada 74. paga 75. ki mogea
 76. ipu 77. biya 78. na 79. bi 80. kaapu ya 81. aapi 82. ake
 83. raa 84. ada 85. adaapu 86. go 87. mo 88. padane 89. laapo
 90. niminaa 91. tu maoma 92. na- 93. yo 94. midi 95. eperaa
 96. kidipa 97. onaa 98. ini 99. magomawae 100. oma

J.4 Pa

1. kobo 2. wigi 3. nḡ 4. go 5. nigi 6. hanomu 7. kiba 8. ouse
 9. kinemo 10. kine 11. mogo 12. male 13. tē 14. tulu 15. padame
 16. atowe 17. bu 18. napo 19. tamakali 20. oumu 21. siya 22. sowo
 23. saa 24. ko 25. pēḡ 26. --- 27. gine 28. abi 29. peteme
 30. uwe 31. ume 32. hwĩ-ga 33. ume 34. to 35. iyebo 36. deni
 37. giso 38. nē 39. ne ogwe 40. owekome 41. otigi 42. i 43. i
 debere 44. iḡiya 45. ti 46. hweto 47. tiye 48. tige ouse 49. mo'o
 50. mune 51. hiti 52. kobokiti 53. ediya-ge 54. sige 55. tau-ge
 56. go-gene 57. di-ge 58. kosa-gane 59. moma-gane 60. tee-ga
 61. suwiga 62. towate 63. kwane 64. de-nu 65. de-nu 66. he-no
 67. ene-no 68. sa ode 69. kodu 70. de-nu 71. kiyo e-no 72. e-no
 73. de-do 74. wodalao 75. ume 'i-da 76. ha-dano 77. ka-da 78. ten-a
 79. hi 80. kiya-ga 81. kobo nokobu 82. naganewo 83. ne dim-enu
 84. kiba 'o 85. hitiyum 86. e 87. o 88. oteso 89. diyabo 90. nodaloyo
 91. maleyenu 92. amale 93. i use 94. seyi 95. --- 96. dage 97. kobo
 98. i mū 99. --- 100. po

J.5 Saniyo

1. meni 2. taune 3. ane 4. ne 5. nomo 6. wore siya'i 7. mato
8. mato towe 9. nihe 10. ereme 11. apaniye 12. pi 13. so'owe
14. pe'e'i 15. ahi 16. e'eti 17. mo'u 18. li'e 19. lowe 20. lowe
- upo'o 21. tahe 22. fisa'i 23. piyo'u 24. pa'a'e 25. ma'ipi 26. wawe
27. poweye 28. yame 29. i'imi 30. aitu 31. sa'utowa 32. pasi
33. sa'i 34. pepe'i 35. tapiye 36. te'e'e 37. omo 38. yehe 39. sapu
40. yeheke'e 41. yo 42. me 43. me napi 44. metahe 45. you 46. ini
47. i'owe 48. i'owe towe 49. hote 50. ha'e 51. a'asi 52. osowa'i
53. wise'ia'i 54. piteya'i 55. fo'uwa'i 56. wapowa'i 57. iwisiya'i
58. wa'imeya'i 59. kokowa'i 60. um'e'iya'i 61. na'ete 62. ahitemere'e
63. he'iya'i 64. aiyei 65. sa'i aiyei 66. teyei 67. onuwe
68. pe'ite'iye 69. uweyei 70. awei 71. howeye 72. howeyei 73. siyeyei
74. wanuwi 75. sa'i feiyei 76. aiyeiyei 77. sinitiyei 78. awa
79. yape 80. fo'o'o 81. n+bi'ai 82. piyine 83. yehe etiniyei 84. neme
85. tomu a'asi 86. ape 87. apo 88. ta'i 89. hesi 90. so'o'fu 91. aine
- te'fa'iyei 92. -ta'ama 93. me towe 94. fe'o'u 95. --- 96. ---
97. meni 98. meso 99. yosiyei 100. temeniyeye

J.6 Sau

1. hali 2. wade 3. i 4. neke 5. niki 6. payao 7. aboke/you
8. itiki 9. leke 10. meneke 11. haleke 12. kake 13. kekeke 14. make
15. kake 16. kiki 17. adu 18. palo/waleke 19. age 20. tumiki
21. yogleke 22. we 23. imeke 24. holiki 25. honoka 26. puki
27. nate 28. sube 29. hobulage 30. koa/hapueke 31. lako/yei 32. tiba
33. ipi/ikali 34. yu 35. sepo/topi 36. hou 37. pote 38. ti 39. lumu
40. pere 41. pota 42. ti 43. piki 44. yogleke 45. kika/ena
46. me'keke 47. ba 48. itiki 49. hapeke 50. tepeli 51. tieke
52. hosiki 53. epeke 54. hokulu 55. we peleme 56. hake peleme
57. punu ribaleme 58. hami peleme 59. haka relame 60. tiripu 61. kose
- pelame 62. tuba ulame 63. panakeki 64. nalame 65. ikali nalame
66. tiaseme 67. pilame 68. alame 69. pulame 70. kitelame 71. y
- pelielame 72. pelielame 73. hadelame 74. opuelame 75. mokela pulame
76. 'pulame 77. tiao pulame 78. lu nalame 79. biki 80. hapulame
81. epi 82. aleke 83. ti talame 84. lame 85. wopu/wotu 86. do
87. mo 88. homeke 89. yapo 90. hadelame 91. litelame 92. na-
93. katake 94. mene 95. ekeke 96. age kebo 97. hali 98. wae
99. bolu bolu pelame 100. ote homeleme

J.7 Waia

1. tubu 2. kamena 3. na 4. amə 5. ahidio 6. ahidio nomo 7. wato
8. hinibó 9. baídi 10. dopo 11. galo 12. lolo 13. merapira
14. kokobe 15. tabo 16. kokoto 17. nono 18. tepo 19. nato 20. pupu
21. tama 22. ha^uwi 23. gadi 24. goha: 25. kowe (*lungs*) kikipu
26. --- 27. kadepa 28. manome 29. moroki 30. bubu 31. wegola
32. du: du'u 33. bea 34. hopu 35. naki 36. totata 37. haka hunu hunu
38. koe 39. ahuta 40. --- 41. gabo 42. ke'ha 43. haho 44. ---
45. gaha 46. --- 47. hola: 48. patamu 49. kikipo 50. daha 51. ola
52. dehapoto 53. wadiala 54. g^yagela 55. hawi-hawi 56. ini kaka
57. bumi-bumi 58. hipawala 59. --- 60. otanotano la 61. gibagiba la
62. --- 63. --- 64. hēna 65. nēne 66. nēma higa 67. nemedz
68. negaiya 69. nēpate 70. nikaname 71. newata 72. --- 73. haba
74. nuliya 75. --- 76. mæpæ 77. --- 78. --- 79. mahiro 80. gagale
81. poteraekə 82. badalakie 83. --- 84. tamani 85. hilionomo
86. mohela 87. mo'ola 88. kapia 89. nete'ewa 90. --- 91. --- 92. ---
93. paha 94. katene 95. lalo 96. --- 97. --- 98. kikipo 99. ---
100. nəhui'ta

J.8 Wiru

1. ali 2. atoa 3. no 4. ne 5. toto 6. pea 7. tobou 8. pine
9. lene 10. timini 11. kabidi 12. kime 13. keke 14. kabe 15. kabunu
16. yono 17. adu 18. wedo 19. kawa 20. wadini 21. kepene 22. kamate
23. ʔi 24. tono 25. mugili 26. kolotini 27. lou 28. tokene
29. tagoi 30. wedo 31. ta 32. likonu 33. ue 34. itono 35. kue
36. kibi 37. tono 38. toe 39. lodo 40. kuku 41. ka 42. yomo
43. teke 44. tabe 45. tue 46. adapini 47. ini 48. pine 49. my
50. mɔy 51. tubea 52. natea 53. epeteko 54. ludu 55. kienea
56. ake tanea 57. lienea 58. kakai 59. kanu tanea 60. poto toko
61. kakale toko 62. kapeteko 63. pene 64. one ne nako 65. ue nako
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95. kime 96. ogo 97. ali 98. lene 99. lupi 100. tuko

BIOGRAPHICAL SKETCHES

BIOGRAPHICAL SKETCHES

Herbert Alfred BROWN graduated B.A. Honours in Anthropology in 1936, University of London, where he was a student of Malinowski. He received training from J.R. Firth at University College, London. He took his theological course at New College, London. In 1956, while on furlough, he gained a post-graduate Diploma in Anthropology at London. He holds an M.A. first-class Honours (Anthropology) from the University of Sydney, awarded in 1965. From 1938-70 he worked as a missionary in eastern Gulf of Papua amongst the Elema, Kovio, Kunimaipa and Anga peoples, first with the London Missionary Society, later with the United Church of Papua New Guinea and the Solomon Islands. On retiring from work as Circuit Minister with the United Church, he gained in 1972 a Ph.D. in Linguistics at the University of London. He has returned to Papua New Guinea and is currently engaged in completing the translation of the Bible into Toaripi. The *Oceanic Linguistics Monograph* published his *Dictionary of Toaripi* in 1968.

*

Thomas E. DUTTON was born and educated in southern Queensland and spent the early years of his professional life teaching in that state and in Papua New Guinea before returning to complete a Certificate in Education and higher degrees in linguistics at the University of Queensland and the Australian National University in the late sixties. He is particularly interested in Papua and Austronesian languages of Central and South-East Papua as well as in Pidgin and Creoles. He is at present Fellow in Linguistics at the Australian National University.

Karl James FRANKLIN was born near Schickshinny, Pennsylvania and grew up on a farm in the area. He received the B.A. in Psychology from the King's College, Briarcliff Manor, New York in 1954. He and his wife Joice attended the S.I.L. at the University of Oklahoma during the summers of 1956, 1957 and 1963. They have also taught at the same S.I.L., as well as in Australia and New Zealand where he has served as principal. In 1958 they began work among the East Kewa in the Southern Highlands of Papua and continued there until the end of 1962. In 1965 he was awarded the M.A. in Linguistics from Cornell University and in 1969 the Ph.D. in Linguistics from the Australian National University. The latter study was based on West Kewa. He has written a number of linguistic and anthropological articles on the Kewa. At present he is Director of the Papua New Guinea Branch of S.I.L.

*

Richard LLOYD was born in the South East of South Australia at Kingston and educated at Port Pirie, where he trained in Mechanical Engineering at the Port Pirie Technical School and School of Mines. He, with his wife Joy, began working in the Baruya language of the Angan Family in 1961. He has been a grammar consultant for the New Guinea Branch of the S.I.L. and has taught at the S.I.L. in Australia on a number of occasions. He has been collecting information and data on the Angan languages for several years and has published several articles dealing with Baruya.

*

George MacDONALD is a native of Illinois, U.S.A. and holds a B.A. in History from Asbury College, Wilmore, Kentucky, and a Diploma (Biblical Languages) from Moody Bible Institute in Chicago. In 1962 he and his wife Georgetta, began field work in the Daribi language at Karimui. His linguistic training was received at the S.I.L. schools at the Universities of Oklahoma and North Dakota. He is presently engaged in an M.A. program in linguistics at the University of Papua New Guinea.

Dan SHAW received the B.A. and M.A. degrees in Anthropology from the University of Arizona. He worked among the Papago of Southern Arizona as a consulting anthropologist as well as teaching anthropology at Clackamas College in Oregon City, Oregon. Karen SHAW received the B.A. in Elementary Education from the University of Arizona and both Dan and Karen received linguistic training for two summers at the University of Oklahoma. The Shaws arrived in New Guinea in 1969 and in 1970 they began work among the Samo of the Nomad River area. They have produced linguistic, anthropological, and literacy materials in conjunction with their work. Mr Shaw is presently engaged in a Ph.D. program in anthropology at the University of Papua and New Guinea.

*

Clemens L. VOORHOEVE was educated in the Netherlands and got his Ph.D. in Linguistics at the University of Leiden. Before obtaining his doctorate, he spent a lengthy period in the field in the Asmat area of West Irian, and in 1965, joined the Australian National University where he is now Senior Fellow in the Department of Linguistics in the School of Pacific Studies. He carried out extensive fieldwork in western and southern parts of Papua New Guinea and in West Irian and has been instrumental in the establishment of very large groupings of Papuan languages. He has published widely in his subject.

*

Stephen A. WURM obtained his doctorate in Linguistics and Anthropology at Vienna University, and after holding university appointments in Altaic and Turkic linguistics in Austria and England, he joined Sydney University in 1954 and the Australian National University in 1957 where he is now Professor of Linguistics in the School of Pacific Studies. His research interests have for many years been focussed on Papuan linguistics as well as on Austronesian and Australian linguistics, and he has published widely in these subjects and on interdisciplinary approaches involving them and Pidgin languages of the south-western Pacific.

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